SIEMENS

Sysmex® CA-500 series System

Reference Guide 3.03

Not for use in the USA

This document is Siemens Healthcare Diagnostics Reference Guide version number 3.03 for Sysmex® CA-500 series System. From June 2011, this document is the only relevant source for assay application information on the Sysmex® CA-500 series System.
The Reference Guide contains a complete list of all assays evaluated and released by Siemens. Information in this document supersedes information in earlier versions of the Reference Guide or Application Sheets.

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Trademarks

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Note

Siemens Healthcare Diagnostics has validated the provided instructions, reagents, instrument, software and customizable features for this system to optimize product performance and meet product specifications. User defined modifications are not supported by Siemens as they may affect performance of the system and test results. It is the responsibility of the user to validate any modifications made to these instructions, instruments, reagents or software provided by Siemens.

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Revision History

Document	Date	Changes
Reference Guide 3.03	2011-06	**New Application Sheets:** von Willebrand Factor with INNOVANCE® VWF Ac **Deleted Application Sheets:** No Application Sheets deleted. **Revised Application Sheets:** **General changes:** Added or changed content of the Application Sheets is highlighted in blue. Some document IDs were increased for technical reasons only, without any changes of the content. On-board Stability: "Test Protocol Name" changed to "Name in Test Protocol". Standard Curve (example only): Wording of the standard disclaimer revised (“reference curve” replaced by “standard curve”). **Changes in detail:** Derived Fibrinogen with Thromborel® S and Dade® Innovin® Limitations: Note on turbid samples deleted (moved to Interference Studies); Interference Studies: Value for triglycerides replaced by “---*”, note “* Turbid samples are not suitable for Derived Fibrinogen measurements, as they may lead to abnormally low values. Interference of turbid samples may occur even if triglyceride concentrations are within the normal range. Any questionable results should be followed with a more definitive quantitative method.” added; Precision: Note on acceptable variability corrected: “total coefficient of variation (CV)” replaced by “within device/lab CV)”. Derived Fibrinogen with Dade® Thromboplastin C Plus Interference Studies: Value for triglycerides replaced by “---*”, respective note added; APTT with Dade® Actin® FSL Activated PTT Reagent Materials Required: Dade® Ci-Trol 1 Coagulation Control Level 1 added. Fibrinogen with Multifibren* U and Batroxobin Time with Batroxobin Reagent Materials Required: Dade® Ci-Trol 1/ Dade® Ci-Trol Coagulation Control Level 1 added; Distribution changed to “outside USA”. Fibrinogen with Dade® Thrombin Reagent Reference Interval, Data Check and Standard Curve: Decimal place added Standard Curve Calibration: Number Format changed. Thrombin Time with Test Thrombin Reagent Additional Notes: “The reagent has to be reconstituted in the volume labeled on the reagent vial. Methods with other reconstitution volumes are not supported by this Application Sheet” deleted; Reference Interval: New data for Reference Interval. Heparin (LMW) and (UF) with Berichrom® Heparin Standard Curve Calibration: Hyphen behind Curve Fit deleted. D-Dimer with D-Dimer PLUS and with Advance D-Dimer Limitations: Note on turbid samples deleted (moved to Interference Studies); Interference Studies: value for triglycerides replaced by “---*”, note “* Turbid samples can lead to falsely elevated or decreased values even if triglyceride concentrations are within the normal range.” added. D-Dimer with INNOVANCE® D-Dimer On board stability: Text corrected: “In original vials, the reagents may be left on board the instrument continuously for **16** hours or stored on and off the instrument for intervals of 7 x 1 hour over a maximum period of 14 days. …”

Reference Guide 3.02	2010-07	**New Application Sheets:** No new Application Sheets. **Deleted Application Sheets:** No Application Sheets deleted. **Revised Application Sheets:** **General changes:** Disclaimer on product performance revised: "The parameters defined in this application sheet have been developed by Siemens Healthcare Diagnostics *to provide optimal product performance with the assay and instrument combination*. Any modification to these parameters may affect performance of this and other assays in use on your system and the resulting assay values. It is the responsibility of the user to validate any modifications and their impact on all assay results. Results of this test should always be interpreted in conjunction with the patient's medical history, clinical presentation and other findings. *The application sheet lists all combinations of controls and calibrators for use with the reagent and instrument system; other combinations are not validated or supported by Siemens*." Disclaimer for on-board stability added: "*The stability data presented here were established under controlled laboratory conditions. Due to differences in laboratory environmental conditions and reagent vial fill volumes performance may vary. Please contact your local service representative to report any issues*." Order number B4265-1 for CA-CLEAN I deleted. The distribution of the following Application Sheets was changed to "global": Fibrinogen with Multifibren* U Thrombin Time with Test Thrombin Reagent Batroxobin Time with Batroxobin Reagent Coagulation Factor VII with Dade® Innovin® Coagulation Factor VIII with Dade® Actin® FSL Activated PTT Reagent Protein C with Protein C Reagent Heparin with Berichrom® Heparin Heparin (LMW) with Berichrom® Heparin Heparin (UF) with Berichrom® Heparin Protein C with Berichrom® Protein C **Changes in detail:** Fibrinogen with Dade® Thrombin Reagent Materials Required: Dade® Owren's Veronal Buffer B4234 added. Antithrombin III with Berichrom® Antithrombin III (A) Reference Interval: New data for the reference interval added.
Reference Guide 2.1 to 3.01	---	See respective Reference Guide
Reference Guide 2.0	---	Version not released
Reference Guide 1.0	---	No Reference Guide 1.0 for CA-500 series System

Table of Contents

Normal printed version number: Current version of the Application Sheet, no changes to the previous Reference Guide
Bold version number: New Application Sheet version in this Reference Guide

Application Sheet for PT seconds with Thromborel® S

For additional information, limitations and interferences please refer to the Instructions for Use of the analyzer and check current Instructions for Use for reagents, controls and calibrators and tables of assigned/ analytical values.

Document ID: 3101010109
Release Date: June 2011
Valid from software version: 00-17

Distribution: ☒ outside USA ☐ global ☐ in USA only

The parameters defined in this application sheet have been developed by Siemens Healthcare Diagnostics to provide optimal product performance with the assay and instrument combination. Any modification to these parameters may affect performance of this and other assays in use on your system and the resulting assay values. It is the responsibility of the user to validate any modifications and their impact on all assay results. Results of this test should always be interpreted in conjunction with the patient's medical history, clinical presentation and other findings.
The application sheet lists all combinations of controls and calibrators for use with the reagent and instrument system; other combinations are not validated or supported by Siemens.

Materials Required

Material	Catalog #	Size	On-board position
Thromborel® S Reagent	OUHP	4/10 mL	Reagent holder position 1 [1]
Dade® Ci-Trol® 1	291070	1 mL	Any position on sample rack
Dade® Ci-Trol® 2	291071	1 mL	
Dade® Ci-Trol® 3	291072	1 mL	
Dade® Ci-Trol® Coagulation Control Level 1	B4244-10	1 mL	
Dade® Ci-Trol® Coagulation Control Level 2	B4244-20	1 mL	
Dade® Ci-Trol® Coagulation Control Level 3	B4244-30	1 mL	
Control Plasma N	ORKE	1 mL	
CA CLEAN I	964-0631-3	50 mL	Rinse position 11
BC Vial Kit	OVKE	5 mL	—

Additional Notes

[1] Alternatively, any other cooled reagent position can be used.
Please note: If reagents recommended for cooling are stored on a non-cooled position, a reduced on-board stability has to be anticipated.
If reagents, rinse solutions or buffers are not supplied in exactly fitting vials it is necessary to transfer them into appropiate vials.
The required controls have to be transferred into appropriate sample cups.

On-board Stability

Material	Time [h]
Thromborel® S Reagent	24

The stability data presented here were established under controlled laboratory conditions. Due to differences in laboratory environmental conditions and reagent vial fill volumes performance may vary. Please contact your local service representative to report any issues.

Interference Studies

No interferences up to ...		
Triglycerides	mg/dL	378
Hemoglobin	mg/dL	1000
Bilirubin	mg/dL	12

Application Sheet for PT seconds with Thromborel® S

Document ID: 3101010109
Release Date: June 2011

Performance Characteristics

The following studies were conducted using specimens collected in 3.2 % sodium citrate solution.

Method Comparison

Predicate Device	Regression Equation	r
Thromborel® S Reagent on Sysmex® CA-6000 System	y = 1.00 x - 0.50	0.999

r = Correlation Coefficient

Precision

Acceptable variability (imprecision) should be such that the total coefficient of variation (CV) of the analytical system on the same lot of control plasma is less than 5 %.

	Within Run %	Run to Run %	Total %
Control Plasma N	0,7	0,7	0,9
Dade® Ci-Trol® 3	1,1	1,0	1,5

Measuring Range

Refer to the Instructions for Use of the analyzer for additional information.

Reference Interval

In a study with ostensibly healthy subjects the following data were obtained:

		Unit: sec	
Comments	n	Median	2.5th - 97.5th Percentile
—	158	10.2	9.3 - 11.6

Reference intervals vary from laboratory to laboratory depending on the population served and the technique and reagent lot used. Therefore, each laboratory must establish its own reference intervals or verify them whenever one or more of the aforementioned variables are changed.

For more information on establishing reference intervals see CLSI document C28-A3, “How to Define and Determine Reference Intervals in the Clinical Laboratory; Approved Guideline.”

Bibliography

Refer to the Instructions for Use of the reagent.

Manufacturer

Siemens Healthcare Diagnostics Products GmbH
Emil-von-Behring-Str. 76
35041 Marburg / Germany

USA Distributor

Siemens Healthcare Diagnostics Inc.
Newark, DE 19714 USA

CE

Application Sheet for PT seconds with Thromborel® S

Document ID: 3101010109
Release Date: June 2011

Test Protocol

Special Menu - Settings - Analysis Settings **- Test Protocol**

Test Protocol Name	PT	**STD-Link**	No
Detector	for PT THS		
End Point	50 %		
Maximum Time	100 sec		
Sensitivity	Low Gain		
Sample Vol	50 µL		
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
2nd Dil			
D.Samp Vol	0 µL		
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 1	180 sec		
Reag. Vol	PT THS	100 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 2	0 sec		
Reag. Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 3	0 sec		
Reag. Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0

Standard Curve Calibration

The assay is not calibrated.

Data Check

Special Menu - Settings - Data Check

- Mark Limits	Select Param.	PT

Number of Replicates

Special Menu - Settings - Analysis Settings

- Set Replication	Replicates	1

Application Sheet for PT % with Thromborel® S

For additional information, limitations and interferences please refer to the Instructions for Use of the analyzer and check current Instructions for Use for reagents, controls and calibrators and tables of assigned/ analytical values.

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Release Date: June 2011
Valid from software version: 00-17

Distribution: ☒ outside USA ☐ global ☐ in USA only

The parameters defined in this application sheet have been developed by Siemens Healthcare Diagnostics to provide optimal product performance with the assay and instrument combination. Any modification to these parameters may affect performance of this and other assays in use on your system and the resulting assay values. It is the responsibility of the user to validate any modifications and their impact on all assay results. Results of this test should always be interpreted in conjunction with the patient's medical history, clinical presentation and other findings.
The application sheet lists all combinations of controls and calibrators for use with the reagent and instrument system; other combinations are not validated or supported by Siemens.

Materials Required

Material	Catalog #	Size	On-board position
Thromborel® S Reagent	OUHP	4/10 mL	Reagent holder position 1 [1]
PT-Multi Calibrator	OPAT	6 x 1 mL	Sample rack position 1 - 5
Dade® Ci-Trol® 1	291070	1 mL	Any position on sample rack
Dade® Ci-Trol® 2	291071	1 mL	
Dade® Ci-Trol® 3	291072	1 mL	
Dade® Ci-Trol® Coagulation Control Level 1	B4244-10	1 mL	
Dade® Ci-Trol® Coagulation Control Level 2	B4244-20	1 mL	
Dade® Ci-Trol® Coagulation Control Level 3	B4244-30	1 mL	
Control Plasma N	ORKE	1 mL	
CA CLEAN I	964-0631-3	50 mL	Rinse position 11
BC Vial Kit	OVKE	5 mL	—

Additional Notes

[1] Alternatively, any other cooled reagent position can be used.
Please note: If reagents recommended for cooling are stored on a non-cooled position, a reduced on-board stability has to be anticipated.
If reagents, rinse solutions or buffers are not supplied in exactly fitting vials it is necessary to transfer them into appropiate vials.
The required controls and calibrators have to be transferred into appropriate sample cups.
PT-Multi Calibrator level 6 is not applied to Thromborel® S Reagent.

On-board Stability

Material	Time [h]
Thromborel® S Reagent	24

The stability data presented here were established under controlled laboratory conditions. Due to differences in laboratory environmental conditions and reagent vial fill volumes performance may vary. Please contact your local service representative to report any issues.

Interference Studies

No interferences up to ...		
Triglycerides	mg/dL	378
Hemoglobin	mg/dL	1000
Bilirubin	mg/dL	6

Application Sheet for PT % with Thromborel® S

Document ID: 3103010111
Release Date: June 2011

Performance Characteristics

The following studies were conducted using specimens collected in 3.2 % sodium citrate solution.

Method Comparison

Predicate Device	Regression Equation	r
Calibration with FNP pool using Thromborel® S Reagent on Sysmex® CA-500 series System	y = 1.02 x + 0.54	0.999

r = Correlation Coefficient

Precision

Acceptable variability (imprecision) should be such that the total coefficient of variation (CV) of the analytical system on the same lot of control plasma is less than 5 %.

	Within Run %	Run to Run %	Total %
Control Plasma N	2.2	1.7	2.6
Dade® Ci-Trol® 2	2.6	2.7	3.7

Measuring Range

The measuring range is defined by the concentration of the calibrators used.

Reference Interval

In a study with ostensibly healthy subjects the following data were obtained:

		Unit: % of norm	
Comments	n	Median	2.5th - 97.5th Percentile
—	158	102	79 - 122

Reference intervals vary from laboratory to laboratory depending on e.g. the technique used; therefore, each laboratory should establish its own reference interval.
For more information on establishing reference intervals see CLSI document C28-A3, “How to Define and Determine Reference Intervals in the Clinical Laboratory; Approved Guideline.”

Bibliography

Refer to the Instructions for Use of the reagent.

Manufacturer

Siemens Healthcare Diagnostics Products GmbH
Emil-von-Behring-Str. 76
35041 Marburg / Germany

USA Distributor

Siemens Healthcare Diagnostics Inc.
Newark, DE 19714 USA

CE

Application Sheet for PT % with Thromborel® S

Document ID:	3103010111
Release Date:	June 2011

Test Protocol

Special Menu - Settings - Analysis Settings **- Test Protocol**

Test Protocol Name	PT	**STD-Link**	No
Detector	for PT THS		
End Point	50 %		
Maximum Time	100 sec		
Sensitivity	Low Gain		
Sample Vol	50 µL		
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
2nd Dil			
D.Samp Vol	0 µL		
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 1	180 sec		
Reag. Vol	PT THS	100 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 2	0 sec		
Reag. Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 3	0 sec		
Reag. Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0

Standard Curve Calibration

Calibration Parameter 1

Standard Curve **- Select Param.**

Param.	PT%
Units	%
Number Format	XXX.X
Curve Fit	Log Curve

Standard Curve **- Standard Analysis**

Select Dilution Set	M
Calibrator	PT-Multi Calibrator

Refer to the table of analytical values for the lot specific calibrator value.

		Repl.
Calib. or Dil.Ratio 1	Calibrator 1	2
Calib. or Dil.Ratio 2	Calibrator 2	2
Calib. or Dil.Ratio 3	Calibrator 3	2
Calib. or Dil.Ratio 4	Calibrator 4	2
Calib. or Dil.Ratio 5	Calibrator 5	2
Calib. or Dil.Ratio 6	—	—

Data Check

Special Menu - Settings - Data Check

- Mark Limits
- Report Limits

Select Param.	PT%
lower (<)	5.0 %
upper (>)	130.0 %

Number of Replicates

Special Menu - Settings - Analysis Settings

- Set Replication

Replicates	1

Standard Curve (example only)

A new standard curve should be established with each change of reagent lot or with any deviation from controls or proficiency testing limits.

PT%

%	sec
117.0	10.0
66.0	14.2
42.0	19.6
22.0	36.9
13.0	68.1

Remarks

If the Derived Fibrinogen method is also used on the instrument, the Derived Fibrinogen method has to be disabled during the calibration with PT-Multi Calibrator to avoid overwriting the Derived Fibrinogen master curve.
- Press [Standard Curve] - [Select Param.], disable the parameter No. 4 “dFbg”
- Perform calibration with PT-Multi Calibrator according to the Application Sheet
- Press [Standard Curve] - [Select Param.], enable the parameter No. 4 “dFbg”

Nevertheless, please check all calibration curve data afterwards.

Application Sheet for PT INR with Thromborel® S

For additional information, limitations and interferences please refer to the Instructions for Use of the analyzer and check current Instructions for Use for reagents, controls and calibrators and tables of assigned/ analytical values.

Document ID: 3104010109	
Release Date: June 2011	
Valid from software version: 00-17	
Distribution:	☒ outside USA
☐ global	☐ in USA only

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The application sheet lists all combinations of controls and calibrators for use with the reagent and instrument system; other combinations are not validated or supported by Siemens.

Materials Required

Material	Catalog #	Size	On-board position
Thromborel® S Reagent	OUHP	4/10 mL	Reagent holder position 1 [1]
Dade® Ci-Trol® 1	291070	1 mL	Any position on sample rack
Dade® Ci-Trol® 2	291071	1 mL	
Dade® Ci-Trol® 3	291072	1 mL	
Dade® Ci-Trol® Coagulation Control Level 1	B4244-10	1 mL	
Dade® Ci-Trol® Coagulation Control Level 2	B4244-20	1 mL	
Dade® Ci-Trol® Coagulation Control Level 3	B4244-30	1 mL	
Control Plasma N	ORKE	1 mL	
Standard Human Plasma [2]	ORKL	1 mL	Sample rack position 1
CA CLEAN I	964-0631-3	50 mL	Rinse position 11
BC Vial Kit	OVKE	5 mL	—

Additional Notes

[1] Alternatively, any other cooled reagent position can be used.
Please note: If reagents recommended for cooling are stored on a non-cooled position, a reduced on-board stability has to be anticipated.
[2] Optional; only if used to establish the MNPT.
If reagents, rinse solutions or buffers are not supplied in exactly fitting vials it is necessary to transfer them into appropiate vials.
The required controls and calibrators have to be transferred into appropriate sample cups.

On-board Stability

Material	Time [h]
Thromborel® S Reagent	24

The stability data presented here were established under controlled laboratory conditions. Due to differences in laboratory environmental conditions and reagent vial fill volumes performance may vary. Please contact your local service representative to report any issues.

Interference Studies

No interferences up to ...		
Triglycerides	mg/dL	450
Hemoglobin	mg/dL	600
Bilirubin	mg/dL	36

Application Sheet for PT INR with Thromborel® S

Document ID: 3104010109
Release Date: June 2011

Performance Characteristics

The following studies were conducted using specimens collected in 3.2 % sodium citrate solution.

Method Comparison

Predicate Device	Regression Equation	r
Thromborel® S Reagent on Sysmex® CA-6000 System	y = 0.89 x + 0.11	0.999

r = Correlation Coefficient

Precision

Acceptable variability (imprecision) should be such that the total coefficient of variation (CV) of the analytical system on the same lot of control plasma is less than 5 %.

	Within Run %	Run to Run %	Total %
Control Plasma N	0.6	0.6	0.8
Dade® Ci-Trol® 3	1.0	0.9	1.3

Measuring Range

Refer to the Instructions for Use of the analyzer for additional information.

Reference Interval

Not applicable.

Bibliography

Refer to the Instructions for Use of the reagent.

Manufacturer

Siemens Healthcare Diagnostics Products GmbH
Emil-von-Behring-Str. 76
35041 Marburg / Germany

USA Distributor

Siemens Healthcare Diagnostics Inc.
Newark, DE 19714 USA

CE

Application Sheet for PT INR with Thromborel® S

Document ID:	3104010109
Release Date:	June 2011

Test Protocol

Special Menu - Settings - Analysis Settings **- Test Protocol**

Test Protocol Name	PT	**STD-Link**	No
Detector	for PT THS		
End Point	50 %		
Maximum Time	100 sec		
Sensitivity	Low Gain		
Sample Vol	50 µL		
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
2nd Dil			
D.Samp Vol	0 µL		
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 1	180 sec		
Reag. Vol	PT THS	100 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 2	0 sec		
Reag. Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 3	0 sec		
Reag. Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0

Standard Curve Calibration

Calibration Parameter 3

Standard Curve **- Select Param.**

Param.	PT-INR
Units	—
Number Format	XX.XX
Curve Fit	ISI Input

Standard Curve **- Manual Entry**

Enter the Normal seconds = MNPT and the ISI.

Data Check

Special Menu - Settings - Data Check

- Mark Limits

Select Param.	PT-INR

Number of Replicates

Special Menu - Settings - Analysis Settings

- Set Replication

Replicates	1

Remarks

System specific MNPT and ISI have to be used.

The Mean Normal PT (MNPT) can be established with Standard Human Plasma. To use Standard Human Plasma, it has to be measured at least twice and the obtained clotting time has to be divided by the ratio given for the PT reagent in the table of analytical values of the respective lot No. of the plasma.

ISI values for prothrombin time assays must be entered directly as they appear on the current reagent labeling. Any changes of reagent lot, software upgrades, major servicing, etc., require verification of the ISI value. Failure to enter the correct ISI value will cause incorrect International Normalization Ratio (INR) results.

Application Sheet for PT INR calibrated with Thromborel® S

For additional information, limitations and interferences please refer to the Instructions for Use of the analyzer and check current Instructions for Use for reagents, controls and calibrators and tables of assigned/ analytical values.

Document ID: 3105010109
Release Date: June 2011
Valid from software version: 00-17

Distribution: ☒ outside USA ☐ global ☐ in USA only

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The application sheet lists all combinations of controls and calibrators for use with the reagent and instrument system; other combinations are not validated or supported by Siemens.

Materials Required

Material	Catalog #	Size	On-board position
Thromborel® S Reagent	OUHP	4/10 mL	Reagent holder position 1 [1]
PT-Multi Calibrator	OPAT	6 x 1 mL	Sample rack position 1 - 5
Dade® Ci-Trol® 1	291070	1 mL	Any position on sample rack
Dade® Ci-Trol® 2	291071	1 mL	
Dade® Ci-Trol® 3	291072	1 mL	
Dade® Ci-Trol® Coagulation Control Level 1	B4244-10	1 mL	
Dade® Ci-Trol® Coagulation Control Level 2	B4244-20	1 mL	
Dade® Ci-Trol® Coagulation Control Level 3	B4244-30	1 mL	
Control Plasma N	ORKE	1 mL	
CA CLEAN I	964-0631-3	50 mL	Rinse position 11
BC Vial Kit	OVKE	5 mL	—

Additional Notes

[1] Alternatively, any other cooled reagent position can be used.
Please note: If reagents recommended for cooling are stored on a non-cooled position, a reduced on-board stability has to be anticipated.
If reagents, rinse solutions or buffers are not supplied in exactly fitting vials it is necessary to transfer them into appropiate vials.
The required controls and calibrators have to be transferred into appropriate sample cups.
PT-Multi Calibrator level 6 is not applied to Thromborel® S Reagent.

On-board Stability

Material	Time [h]
Thromborel® S Reagent	24

The stability data presented here were established under controlled laboratory conditions. Due to differences in laboratory environmental conditions and reagent vial fill volumes performance may vary. Please contact your local service representative to report any issues.

Interference Studies

No interferences up to ...		
Triglycerides	mg/dL	378
Hemoglobin	mg/dL	1000
Bilirubin	mg/dL	12

Application Sheet for PT INR calibrated with Thromborel® S

Document ID:	3105010109
Release Date:	June 2011

Performance Characteristics

The following studies were conducted using specimens collected in 3.2 % sodium citrate solution.

Method Comparison

Predicate Device	Regression Equation	r
Calibration with MNPT and ISI using Thromborel® S Reagent on Sysmex® CA-500 series System	y = 0.85 x + 0.16	1.000

r = Correlation Coefficient

Precision

Acceptable variability (imprecision) should be such that the total coefficient of variation (CV) of the analytical system on the same lot of control plasma is less than 5 %.

	Within Run %	Run to Run %	Total %
Control Plasma N	0.9	1.1	1.4
Dade® Ci-Trol® 3	1.4	1.9	2.3

Measuring Range

The measuring range is defined by the concentration of the calibrators used.

Reference Interval

Not applicable.

Bibliography

Refer to the Instructions for Use of the reagent.

Manufacturer

Siemens Healthcare Diagnostics Products GmbH
Emil-von-Behring-Str. 76
35041 Marburg / Germany

USA Distributor

Siemens Healthcare Diagnostics Inc.
Newark, DE 19714 USA

CE

Application Sheet for PT INR calibrated with Thromborel® S

Document ID:	3105010109
Release Date:	June 2011

Test Protocol

Special Menu - Settings - Analysis Settings **- Test Protocol**

Test Protocol Name	PT	**STD-Link**	No
Detector	for PT THS		
End Point	50 %		
Maximum Time	100 sec		
Sensitivity	Low Gain		
Sample Vol	50 µL		
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
2nd Dil			
D.Samp Vol	0 µL		
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 1	180 sec		
Reag. Vol	PT THS	100 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 2	0 sec		
Reag. Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 3	0 sec		
Reag. Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0

Standard Curve Calibration

Calibration Parameter 3

Standard Curve **- Select Param.**

Param.	PT-INR
Units	—
Number Format	XX.XX
Curve Fit	Calibration

Standard Curve **- Standard Analysis**

Select Dilution Set	M
Calibrator	PT-Multi Calibrator

Refer to the table of analytical values for the lot specific calibrator value.

		Repl.
Calib. or Dil.Ratio 1	Calibrator 1	2
Calib. or Dil.Ratio 2	Calibrator 2	2
Calib. or Dil.Ratio 3	Calibrator 3	2
Calib. or Dil.Ratio 4	Calibrator 4	2
Calib. or Dil.Ratio 5	Calibrator 5	2
Calib. or Dil.Ratio 6	—	—

Data Check

Special Menu - Settings - Data Check

- Mark Limits
- Report Limits

Select Param.	PT-INR
lower (<)	0.80
upper (>)	6.00

Number of Replicates

Special Menu - Settings - Analysis Settings

- Set Replication

Replicates	1

Standard Curve (example only)

A new standard curve should be established with each change of reagent lot or with any deviation from controls or proficiency testing limits.

PT-INR	
—	sec
0.98	10.6
1.22	13.5
1.54	18.0
2.47	30.5
4.40	55.6

Remarks

If the Derived Fibrinogen method is also used on the instrument, the Derived Fibrinogen method has to be disabled during the calibration with PT-Multi Calibrator to avoid overwriting the Derived Fibrinogen master curve.
- Press [Standard Curve] - [Select Param.], disable the parameter No. 4 “dFbg”
- Perform calibration with PT-Multi Calibrator according to the Application Sheet
- Press [Standard Curve] - [Select Param.], enable the parameter No. 4 “dFbg”

Nevertheless, please check all calibration curve data afterwards.

Application Sheet for Derived Fibrinogen with Thromborel® S

For additional information, limitations and interferences please refer to the Instructions for Use of the analyzer and check current Instructions for Use for reagents, controls and calibrators and tables of assigned/ analytical values.

Document ID: 3106010111
Release Date: June 2011
Valid from software version: 00-17

Distribution: ☒ outside USA ☐ global ☐ in USA only

The parameters defined in this application sheet have been developed by Siemens Healthcare Diagnostics to provide optimal product performance with the assay and instrument combination. Any modification to these parameters may affect performance of this and other assays in use on your system and the resulting assay values. It is the responsibility of the user to validate any modifications and their impact on all assay results. Results of this test should always be interpreted in conjunction with the patient's medical history, clinical presentation and other findings.
The application sheet lists all combinations of controls and calibrators for use with the reagent and instrument system; other combinations are not validated or supported by Siemens.

Materials Required

Material	Catalog #	Size	On-board position
Thromborel® S Reagent	OUHP	4/10 mL	Reagent holder position 1 [1]
Dade® Ci-Trol® 2	291071	1 mL	Any position on sample rack
Dade® Ci-Trol® Coagulation Control Level 2	B4244-20	1 mL	
CA CLEAN I	964-0631-3	50 mL	Rinse position 11
BC Vial Kit	OVKE	5 mL	—

Additional Notes

[1] Alternatively, any other cooled reagent position can be used.
Please note: If reagents recommended for cooling are stored on a non-cooled position, a reduced on-board stability has to be anticipated.
If reagents, rinse solutions or buffers are not supplied in exactly fitting vials it is necessary to transfer them into appropiate vials.
The required controls have to be transferred into appropriate sample cups.

Limitations
Blood plasma substitutes that contain hydroxyethyl starch (HES) may interfere with the analysis. In a study with a HES solution (130/0.4) no interference was observed up to 6 g HES per liter plasma.

On-board Stability

Material	Time [h]
Thromborel® S Reagent	24

The stability data presented here were established under controlled laboratory conditions. Due to differences in laboratory environmental conditions and reagent vial fill volumes performance may vary. Please contact your local service representative to report any issues.

Interference Studies

No interferences up to ...		
Triglycerides	mg/dL	---*
Hemoglobin	mg/dL	100
Bilirubin	mg/dL	36

* Turbid samples are not suitable for Derived Fibrinogen determinations, as they may lead to abnormally low values. Interference of turbid samples may occure even if triglyceride concentrations are within the normal range. Any questionable results should be followed with a more definitive quantitative method.

Application Sheet for Derived Fibrinogen with Thromborel® S

Document ID:	3106010111
Release Date:	June 2011

Performance Characteristics

The following studies were conducted using specimens collected in 3.2 % sodium citrate solution.

Method Comparison

Predicate Device	Regression Equation	r
Dade® Thrombin Reagent on Sysmex® CA-500 System	y = 1.00 x - 0.10	0.870

r = Correlation Coefficient

Precision

Acceptable variability (imprecision) should be such that the within device/lab CV of the analytical system on the same lot of control plasma is less than 10 %.

	mean value g/L	repeatability %	within device/lab %
Dade® Ci-Trol® 2	2.5	2.3	3.1
Normal plasma pool	2.7	1.6	1.9

Measuring Range

Results within the reference range can be directly reported. Results outside the reference range should be re-measured with a standard fibrinogen determination method (e.g. Fibrinogen with Dade® Thrombin Reagent or Fibrinogen with Multifibren* U Reagent).

Reference Interval

In a study with ostensibly healthy subjects the following data were obtained:

			Unit: g/L	
Comments	**n**	**Mean**	**Median**	**2.5th - 97.5th Percentile**
—	124	2.8	2.7	1.9 - 4.0

Reference intervals vary from laboratory to laboratory depending on technique used; therefore, each laboratory should establish its own reference interval.
For more information on establishing reference intervals see CLSI document C28-A3, “How to Define and Determine Reference Intervals in the Clinical Laboratory; Approved Guideline.”

Bibliography

Refer to the Instructions for Use of the reagent.

Manufacturer

Siemens Healthcare Diagnostics Products GmbH
Emil-von-Behring-Str. 76
35041 Marburg / Germany

USA Distributor

Siemens Healthcare Diagnostics Inc.
Newark, DE 19714 USA

CE

Application Sheet for Derived Fibrinogen with Thromborel® S

Document ID:	3106010111
Release Date:	June 2011

Test Protocol

Special Menu - Settings - Analysis Settings **- Test Protocol**

Test Protocol Name	PT	**STD-Link**	No
Detector	for PT THS		
End Point	50 %		
Maximum Time	100 sec		
Sensitivity	Low Gain		
Sample Vol	50 µL		
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
2nd Dil			
D.Samp Vol	0 µL		
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 1	180 sec		
Reag. Vol	PT THS	100 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 2	0 sec		
Reag. Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 3	0 sec		
Reag. Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0

Standard Curve Calibration

Important Note:
The recommendation for the Number Format in Calibration Parameter differs from the information that is given in the Instructions for Use of the analyzer. Please check your Host System for correct interpretation of transmitted results whenever the Number Format will be changed.

Calibration Parameter 4

Standard Curve **- Select Param.**

Param.	dFbg
Units	g/L or mg/dL
Number Format	XXX.X or XXXX
Curve Fit	—

Standard Curve - Manual Entry - **Next** (if applicable)
Enter the Derived Fibrinogen g/L or mg/dL concentrations and the dH of the Master Curve specified in the “Table of Assigned Values” of the specific Lot No. of the reagent used for the analyzer.

Data Check

Special Menu - Settings - Data Check

- Mark Limits	Select Param.	dFbg

Number of Replicates

Special Menu - Settings - Analysis Settings

- Set Replication	Replicates	1

Standard Curve (example only)

Verify the standard curve with the master curve provided with the PT reagent after each change of the reagent lot and modify, if necessary.

dFbg	
g/L	dH
1.9	62
4.0	144

Application Sheet for PT seconds with Dade® Innovin®

For additional information, limitations and interferences please refer to the Instructions for Use of the analyzer and check current Instructions for Use for reagents, controls and calibrators and tables of assigned/ analytical values.

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Distribution: ☒ outside USA ☐ global ☐ in USA only

The parameters defined in this application sheet have been developed by Siemens Healthcare Diagnostics to provide optimal product performance with the assay and instrument combination. Any modification to these parameters may affect performance of this and other assays in use on your system and the resulting assay values. It is the responsibility of the user to validate any modifications and their impact on all assay results. Results of this test should always be interpreted in conjunction with the patient's medical history, clinical presentation and other findings.
The application sheet lists all combinations of controls and calibrators for use with the reagent and instrument system; other combinations are not validated or supported by Siemens.

Materials Required

Material	Catalog #	Size	On-board position
Dade® Innovin® Reagent	B4212	4/10/20 mL	Reagent holder position 1 [1]
Dade® Ci-Trol® 1	291070	1 mL	Any position on sample rack
Dade® Ci-Trol® 2	291071	1 mL	
Dade® Ci-Trol® 3	291072	1 mL	
Dade® Ci-Trol® Coagulation Control Level 1	B4244-10	1 mL	
Dade® Ci-Trol® Coagulation Control Level 2	B4244-20	1 mL	
Dade® Ci-Trol® Coagulation Control Level 3	B4244-30	1 mL	
Control Plasma N	ORKE	1 mL	
CA CLEAN I	964-0631-3	50 mL	Rinse position 11
BC Vial Kit	OVKE	5 mL	—

Additional Notes

[1] Alternatively, any other cooled reagent position can be used.
Please note: If reagents recommended for cooling are stored on a non-cooled position, a reduced on-board stability has to be anticipated.
If reagents, rinse solutions or buffers are not supplied in exactly fitting vials it is necessary to transfer them into appropiate vials.
The required controls have to be transferred into appropriate sample cups.

On-board Stability

Material	Time [h]
Dade® Innovin® Reagent	24

The stability data presented here were established under controlled laboratory conditions. Due to differences in laboratory environmental conditions and reagent vial fill volumes performance may vary. Please contact your local service representative to report any issues.

Interference Studies

No interferences up to ...		
Triglycerides	mg/dL	373
Hemoglobin	mg/dL	1000
Bilirubin	mg/dL	48

Application Sheet for PT seconds with Dade® Innovin®

Document ID:	3101040110
Release Date:	June 2011

Performance Characteristics

The following studies were conducted using specimens collected in 3.2 % sodium citrate solution.

Method Comparison

Predicate Device	Regression Equation	r
Dade® Innovin® Reagent on Sysmex® CA-6000 System	y = 1.03 x - 0.26	0.999

r = Correlation Coefficient

Precision

Acceptable variability (imprecision) should be such that the total coefficient of variation (CV) of the analytical system on the same lot of control plasma is less than 5 %.

	Within Run %	Run to Run %	Total %
Control Plasma N	0.4	0.2	0.4
Dade® Ci-Trol® 3	0.9	1.5	1.8

Measuring Range

Refer to the Instructions for Use of the analyzer for additional information.

Reference Interval

In a study with ostensibly healthy subjects the following data were obtained:

			Unit: sec	
Comments	**n**	**Mean**	**Median**	**2.5th - 97.5th Percentile**
—	158		10.2	9.3 - 11.4

Reference intervals vary from laboratory to laboratory depending on the population served and the technique and reagent lot used. Therefore, each laboratory must establish its own reference intervals or verify them whenever one or more of the aforementioned variables are changed.

For more information on establishing reference intervals see CLSI document C28-A3, “How to Define and Determine Reference Intervals in the Clinical Laboratory; Approved Guideline.”

Bibliography

Refer to the Instructions for Use of the reagent.

Manufacturer

Siemens Healthcare Diagnostics Products GmbH
Emil-von-Behring-Str. 76
35041 Marburg / Germany

USA Distributor

Siemens Healthcare Diagnostics Inc.
Newark, DE 19714 USA

CE

Application Sheet for PT seconds with Dade® Innovin®

Document ID:	3101040110
Release Date:	June 2011

Test Protocol

Special Menu - Settings - Analysis Settings **- Test Protocol**

Test Protocol Name	PT	**STD-Link**	No
Detector	for PT INN		
End Point	50 %		
Maximum Time	100 sec		
Sensitivity	Low Gain		
Sample Vol	50 µL		
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
2nd Dil			
D.Samp Vol	0 µL		
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 1	180 sec		
Reag. Vol	PT INN	100 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 2	0 sec		
Reag. Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 3	0 sec		
Reag. Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0

Standard Curve Calibration

The assay is not calibrated.

Data Check

Special Menu - Settings - Data Check

- Mark Limits	Select Param.	PT

Number of Replicates

Special Menu - Settings - Analysis Settings

- Set Replication	Replicates	1

Remarks

As an alternative protocol it is admitted to extend the Maximum Time to 300 seconds if long coagulation times are expected.

Application Sheet for PT % with Dade® Innovin®

For additional information, limitations and interferences please refer to the Instructions for Use of the analyzer and check current Instructions for Use for reagents, controls and calibrators and tables of assigned/ analytical values.

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Valid from software version: 00-17

Distribution: ☒ outside USA ☐ global ☐ in USA only

The parameters defined in this application sheet have been developed by Siemens Healthcare Diagnostics to provide optimal product performance with the assay and instrument combination. Any modification to these parameters may affect performance of this and other assays in use on your system and the resulting assay values. It is the responsibility of the user to validate any modifications and their impact on all assay results. Results of this test should always be interpreted in conjunction with the patient's medical history, clinical presentation and other findings.
The application sheet lists all combinations of controls and calibrators for use with the reagent and instrument system; other combinations are not validated or supported by Siemens.

Materials Required

Material	Catalog #	Size	On-board position
Dade® Innovin® Reagent	B4212	4/10/20 mL	Reagent holder position 1 [1]
PT-Multi Calibrator	OPAT	6 x 1 mL	Sample rack position 1 - 6
Dade® Ci-Trol® 1	291070	1 mL	Any position on sample rack
Dade® Ci-Trol® 2	291071	1 mL	
Dade® Ci-Trol® 3	291072	1 mL	
Dade® Ci-Trol® Coagulation Control Level 1	B4244-10	1 mL	
Dade® Ci-Trol® Coagulation Control Level 2	B4244-20	1 mL	
Dade® Ci-Trol® Coagulation Control Level 3	B4244-30	1 mL	
Control Plasma N	ORKE	1 mL	
CA CLEAN I	964-0631-3	50 mL	Rinse position 11
BC Vial Kit	OVKE	5 mL	—

Additional Notes

[1] Alternatively, any other cooled reagent position can be used.
Please note: If reagents recommended for cooling are stored on a non-cooled position, a reduced on-board stability has to be anticipated.
If reagents, rinse solutions or buffers are not supplied in exactly fitting vials it is necessary to transfer them into appropiate vials.
The required controls and calibrators have to be transferred into appropriate sample cups.

On-board Stability

Material	Time [h]
Dade® Innovin® Reagent	24

The stability data presented here were established under controlled laboratory conditions. Due to differences in laboratory environmental conditions and reagent vial fill volumes performance may vary. Please contact your local service representative to report any issues.

Interference Studies

No interferences up to ...		
Triglycerides	mg/dL	373
Hemoglobin	mg/dL	800
Bilirubin	mg/dL	24

Application Sheet for PT % with Dade® Innovin®

Document ID: 3103040111
Release Date: June 2011

Performance Characteristics

The following studies were conducted using specimens collected in 3.2 % sodium citrate solution.

Method Comparison

Predicate Device	Regression Equation	r
Calibration with FNP pool and Dade® Innovin® Reagent on Sysmex® CA-500 series System	y = 1.09 x - 0.57	1.000

r = Correlation Coefficient

Precision

Acceptable variability (imprecision) should be such that the total coefficient of variation (CV) of the analytical system on the same lot of control plasma is less than 5 %.

	Within Run %	Run to Run %	Total %
Control Plasma N	2.3	2.4	3.2
Dade® Ci-Trol® 2	1.9	2.0	2.7

Measuring Range

The measuring range is defined by the concentration of the calibrators used.

Reference Interval

In a study with ostensibly healthy subjects the following data were obtained:

		Unit:	% of norm
Comments	n		2.5^{th} - 97.5^{th} Percentile
—	158	99	76 - 122

Reference intervals vary from laboratory to laboratory depending on e.g. the technique used; therefore, each laboratory should establish its own reference interval.
For more information on establishing reference intervals see CLSI document C28-A3, “How to Define and Determine Reference Intervals in the Clinical Laboratory; Approved Guideline.”

Bibliography

Refer to the Instructions for Use of the reagent.

Manufacturer

Siemens Healthcare Diagnostics Products GmbH
Emil-von-Behring-Str. 76
35041 Marburg / Germany

USA Distributor

Siemens Healthcare Diagnostics Inc.
Newark, DE 19714 USA

CE

Application Sheet for PT % with Dade® Innovin®

Document ID:	3103040111
Release Date:	June 2011

Test Protocol

Special Menu - Settings - Analysis Settings **- Test Protocol**

Test Protocol Name	PT	**STD-Link**	No
Detector	for PT INN		
End Point	50 %		
Maximum Time	100 sec		
Sensitivity	Low Gain		
Sample Vol	50 µL		
Dil.Vol	******* 0 µL		
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
2nd Dil			
D.Samp Vol	0 µL		
Dil.Vol	******* 0 µL		
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 1	180 sec		
Reag. Vol	PT INN 100 µL		
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 2	0 sec		
Reag. Vol	******* 0 µL		
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 3	0 sec		
Reag. Vol	******* 0 µL		
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0

Standard Curve Calibration

Calibration Parameter 1

Standard Curve **- Select Param.**

Param.	PT%
Units	%
Number Format	XXX.X
Curve Fit	Log Curve

Standard Curve **- Standard Analysis**

Select Dilution Set	M
Calibrator	PT-Multi Calibrator

Refer to the table of analytical values for the lot specific calibrator value.

		Repl.
Calib. or Dil.Ratio 1	Calibrator 1	2
Calib. or Dil.Ratio 2	Calibrator 2	2
Calib. or Dil.Ratio 3	Calibrator 3	2
Calib. or Dil.Ratio 4	Calibrator 4	2
Calib. or Dil.Ratio 5	Calibrator 5	2
Calib. or Dil.Ratio 6	Calibrator 6	2

Data Check

Special Menu - Settings - Data Check

- Mark Limits
- Report Limits

Select Param.	PT%
lower (<)	5.0 %
upper (>)	130.0 %

Number of Replicates

Special Menu - Settings - Analysis Settings

- Set Replication

Replicates	1

Standard Curve (example only)

A new standard curve should be established with each change of reagent lot or with any deviation from controls or proficiency testing limits.

PT%

%	sec
105.0	10.5
67.0	12.5
44.0	15.6
23.0	25.8
13.0	42.3
10.0	49.6

Remarks

If the Derived Fibrinogen method is also used on the instrument, the Derived Fibrinogen method has to be disabled during the calibration with PT-Multi Calibrator to avoid overwriting the Derived Fibrinogen master curve.
- Press [Standard Curve] - [Select Param.], disable the parameter No. 4 “dFbg”
- Perform calibration with PT-Multi Calibrator according to the Application Sheet
- Press [Standard Curve] - [Select Param.], enable the parameter No. 4 “dFbg”

Nevertheless, please check all calibration curve data afterwards.

Application Sheet for PT INR with Dade® Innovin®

For additional information, limitations and interferences please refer to the Instructions for Use of the analyzer and check current Instructions for Use for reagents, controls and calibrators and tables of assigned/ analytical values.

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Distribution: ☒ outside USA ☐ global ☐ in USA only

The parameters defined in this application sheet have been developed by Siemens Healthcare Diagnostics to provide optimal product performance with the assay and instrument combination. Any modification to these parameters may affect performance of this and other assays in use on your system and the resulting assay values. It is the responsibility of the user to validate any modifications and their impact on all assay results. Results of this test should always be interpreted in conjunction with the patient's medical history, clinical presentation and other findings.
The application sheet lists all combinations of controls and calibrators for use with the reagent and instrument system; other combinations are not validated or supported by Siemens.

Materials Required

Material	Catalog #	Size	On-board position
Dade® Innovin® Reagent	B4212	4/10/20 mL	Reagent holder position 1 [1]
Dade® Ci-Trol® 1	291070	1 mL	Any position on sample rack
Dade® Ci-Trol® 2	291071	1 mL	
Dade® Ci-Trol® 3	291072	1 mL	
Dade® Ci-Trol® Coagulation Control Level 1	B4244-10	1 mL	
Dade® Ci-Trol® Coagulation Control Level 2	B4244-20	1 mL	
Dade® Ci-Trol® Coagulation Control Level 3	B4244-30	1 mL	
Control Plasma N	ORKE	1 mL	
Standard Human Plasma [2]	ORKL	1 mL	Sample rack position 1
CA CLEAN I	964-0631-3	50 mL	Rinse position 11
BC Vial Kit	OVKE	5 mL	—

Additional Notes

[1] Alternatively, any other cooled reagent position can be used.
Please note: If reagents recommended for cooling are stored on a non-cooled position, a reduced on-board stability has to be anticipated.
[2] Optional; only if used to establish the MNPT.
If reagents, rinse solutions or buffers are not supplied in exactly fitting vials it is necessary to transfer them into appropiate vials.
The required controls and calibrators have to be transferred into appropriate sample cups.

On-board Stability

Material	Time [h]
Dade® Innovin® Reagent	24

The stability data presented here were established under controlled laboratory conditions. Due to differences in laboratory environmental conditions and reagent vial fill volumes performance may vary. Please contact your local service representative to report any issues.

Interference Studies

No interferences up to ...		
Triglycerides	mg/dL	300
Hemoglobin	mg/dL	1000
Bilirubin	mg/dL	60

Application Sheet for PT INR with Dade® Innovin®

Document ID: 3104040111
Release Date: June 2011

Performance Characteristics

The following studies were conducted using specimens collected in 3.2 % sodium citrate solution.

Method Comparison

Predicate Device	Regression Equation	r
Dade® Innovin® Reagent on Sysmex® CA-6000 System	y = 1.08 x - 0.09	0.999

r = Correlation Coefficient

Precision

Acceptable variability (imprecision) should be such that the total coefficient of variation (CV) of the analytical system on the same lot of control plasma is less than 5 %.

	Within Run %	Run to Run %	Total %
Control Plasma N	0.4	0.2	0.4
Dade® Ci-Trol® 3	0.9	1.6	1.8

Measuring Range

Refer to the Instructions for Use of the analyzer for additional information.

Reference Interval

Not applicable.

Bibliography

Refer to the Instructions for Use of the reagent.

Manufacturer

Siemens Healthcare Diagnostics Products GmbH
Emil-von-Behring-Str. 76
35041 Marburg / Germany

USA Distributor

Siemens Healthcare Diagnostics Inc.
Newark, DE 19714 USA

CE

Application Sheet for PT INR with Dade® Innovin®

Document ID:	3104040111
Release Date:	June 2011

Test Protocol

Special Menu - Settings - Analysis Settings **- Test Protocol**

Test Protocol Name	PT	**STD-Link**	No
Detector	for PT INN		
End Point	50 %		
Maximum Time	100 sec		
Sensitivity	Low Gain		
Sample Vol	50 µL		
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
2nd Dil			
D.Samp Vol	0 µL		
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 1	180 sec		
Reag. Vol	PT INN	100 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 2	0 sec		
Reag. Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 3	0 sec		
Reag. Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0

Standard Curve Calibration

Calibration Parameter 3

Standard Curve **- Select Param.**

Param.	PT-INR
Units	—
Number Format	XX.XX
Curve Fit	ISI Input

Standard Curve **- Manual Entry**

Enter the Normal seconds = MNPT and the ISI.

Data Check

Special Menu - Settings - Data Check

- Mark Limits | Select Param. | PT-INR |

Number of Replicates

Special Menu - Settings - Analysis Settings

- Set Replication | Replicates | 1 |

Remarks

System specific MNPT and ISI have to be used.

The Mean Normal PT (MNPT) can be established with Standard Human Plasma. To use Standard Human Plasma, it has to be measured at least twice and the obtained clotting time has to be divided by the ratio given for the PT reagent in the table of analytical values of the respective lot No. of the plasma.

ISI values for prothrombin time assays must be entered directly as they appear on the current reagent labeling. Any changes of reagent lot, software upgrades, major servicing, etc., require verification of the ISI value. Failure to enter the correct ISI value will cause incorrect International Normalization Ratio (INR) results.

As an alternative protocol it is admitted to extend the Maximum Time to 300 seconds if long coagulation times are expected.

Application Sheet for PT INR calibrated with Dade® Innovin®

For additional information, limitations and interferences please refer to the Instructions for Use of the analyzer and check current Instructions for Use for reagents, controls and calibrators and tables of assigned/ analytical values.

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Valid from software version: 00-17

Distribution: ☒ outside USA ☐ global ☐ in USA only

The parameters defined in this application sheet have been developed by Siemens Healthcare Diagnostics to provide optimal product performance with the assay and instrument combination. Any modification to these parameters may affect performance of this and other assays in use on your system and the resulting assay values. It is the responsibility of the user to validate any modifications and their impact on all assay results. Results of this test should always be interpreted in conjunction with the patient's medical history, clinical presentation and other findings.
The application sheet lists all combinations of controls and calibrators for use with the reagent and instrument system; other combinations are not validated or supported by Siemens.

Materials Required

Material	Catalog #	Size	On-board position
Dade® Innovin® Reagent	B4212	4/10/20 mL	Reagent holder position 1 [1]
PT-Multi Calibrator	OPAT	6 x 1 mL	Sample rack position 1 - 6
Dade® Ci-Trol® 1	291070	1 mL	Any position on sample rack
Dade® Ci-Trol® 2	291071	1 mL	
Dade® Ci-Trol® 3	291072	1 mL	
Dade® Ci-Trol® Coagulation Control Level 1	B4244-10	1 mL	
Dade® Ci-Trol® Coagulation Control Level 2	B4244-20	1 mL	
Dade® Ci-Trol® Coagulation Control Level 3	B4244-30	1 mL	
Control Plasma N	ORKE	1 mL	
CA CLEAN I	964-0631-3	50 mL	Rinse position 11
BC Vial Kit	OVKE	5 mL	—

Additional Notes

[1] Alternatively, any other cooled reagent position can be used.
Please note: If reagents recommended for cooling are stored on a non-cooled position, a reduced on-board stability has to be anticipated.
If reagents, rinse solutions or buffers are not supplied in exactly fitting vials it is necessary to transfer them into appropiate vials.
The required controls and calibrators have to be transferred into appropriate sample cups.

On-board Stability

Material	Time [h]
Dade® Innovin® Reagent	24

The stability data presented here were established under controlled laboratory conditions. Due to differences in laboratory environmental conditions and reagent vial fill volumes performance may vary. Please contact your local service representative to report any issues.

Interference Studies

No interferences up to ...		
Triglycerides	mg/dL	373
Hemoglobin	mg/dL	1000
Bilirubin	mg/dL	36

Application Sheet for PT INR calibrated with Dade® Innovin®

Document ID:	3105040109
Release Date:	June 2011

Performance Characteristics

The following studies were conducted using specimens collected in 3.2 % sodium citrate solution.

Method Comparison

Predicate Device	Regression Equation	r
Calibration with MNPT and ISI using Dade® Innovin® Reagent on Sysmex® CA-500 series System	y = 1.07 x - 0.11	1.000

r = Correlation Coefficient

Precision

Acceptable variability (imprecision) should be such that the total coefficient of variation (CV) of the analytical system on the same lot of control plasma is less than 5 %.

	Within Run %	Run to Run %	Total %
Control Plasma N	1.0	1.1	1.5
Dade® Ci-Trol® 3	0.4	2.8	2.9

Measuring Range

The measuring range is defined by the concentration of the calibrators used.

Reference Interval

Not applicable.

Bibliography

Refer to the Instructions for Use of the reagent.

Manufacturer

Siemens Healthcare Diagnostics Products GmbH
Emil-von-Behring-Str. 76
35041 Marburg / Germany

USA Distributor

Siemens Healthcare Diagnostics Inc.
Newark, DE 19714 USA

CE

Application Sheet for PT INR calibrated with Dade® Innovin®

Document ID: 3105040109
Release Date: June 2011

Test Protocol

Special Menu - Settings - Analysis Settings **- Test Protocol**

Test Protocol Name	PT	**STD-Link**	No
Detector	for PT INN		
End Point	50 %		
Maximum Time	100 sec		
Sensitivity	Low Gain		
Sample Vol	50 µL		
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
2nd Dil			
D.Samp Vol	0 µL		
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 1	180 sec		
Reag. Vol	PT INN	100 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 2	0 sec		
Reag. Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 3	0 sec		
Reag. Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0

Standard Curve Calibration

Calibration Parameter 3
Standard Curve **- Select Param.**

Param.	PT-INR
Units	—
Number Format	XX.XX
Curve Fit	Calibration

Standard Curve **- Standard Analysis**

Select Dilution Set	M
Calibrator	PT-Multi Calibrator

Refer to the table of analytical values for the lot specific calibrator value.

		Repl.
Calib. or Dil.Ratio 1	Calibrator 1	2
Calib. or Dil.Ratio 2	Calibrator 2	2
Calib. or Dil.Ratio 3	Calibrator 3	2
Calib. or Dil.Ratio 4	Calibrator 4	2
Calib. or Dil.Ratio 5	Calibrator 5	2
Calib. or Dil.Ratio 6	Calibrator 6	2

Data Check

Special Menu - Settings - Data Check

- Mark Limits
- Report Limits

Select Param.	PT-INR
lower (<)	0.80
upper (>)	6.00

Number of Replicates

Special Menu - Settings - Analysis Settings

- Set Replication

Replicates	1

Standard Curve (example only)

A new standard curve should be established with each change of reagent lot or with any deviation from controls or proficiency testing limits.

PT-INR

—	sec
0.99	10.4
1.19	12.6
1.43	15.2
2.14	22.8
3.64	38.5
4.77	50.3

Remarks

If the Derived Fibrinogen method is also used on the instrument, the Derived Fibrinogen method has to be disabled during the calibration with PT-Multi Calibrator to avoid overwriting the Derived Fibrinogen master curve.
- Press [Standard Curve] - [Select Param.], disable the parameter No. 4 “dFbg”
- Perform calibration with PT-Multi Calibrator according to the Application Sheet
- Press [Standard Curve] - [Select Param.], enable the parameter No. 4 “dFbg”

Nevertheless, please check all calibration curve data afterwards.

Application Sheet for Derived Fibrinogen with Dade® Innovin®

For additional information, limitations and interferences please refer to the Instructions for Use of the analyzer and check current Instructions for Use for reagents, controls and calibrators and tables of assigned/ analytical values.

Document ID:	3106040112
Release Date:	June 2011
Valid from software version:	00-17
Distribution:	☒ outside USA
	☐ global ☐ in USA only

The parameters defined in this application sheet have been developed by Siemens Healthcare Diagnostics to provide optimal product performance with the assay and instrument combination. Any modification to these parameters may affect performance of this and other assays in use on your system and the resulting assay values. It is the responsibility of the user to validate any modifications and their impact on all assay results. Results of this test should always be interpreted in conjunction with the patient's medical history, clinical presentation and other findings.
The application sheet lists all combinations of controls and calibrators for use with the reagent and instrument system; other combinations are not validated or supported by Siemens.

Materials Required

Material	Catalog #	Size	On-board position
Dade® Innovin® Reagent	B4212	4/10/20 mL	Reagent holder position 1 [1]
Dade® Ci-Trol® 2	291071	1 mL	Any position on sample rack
Dade® Ci-Trol® Coagulation Control Level 2	B4244-20	1 mL	
CA CLEAN I	964-0631-3	50 mL	Rinse position 11
BC Vial Kit	OVKE	5 mL	—

Additional Notes

[1] Alternatively, any other cooled reagent position can be used.
Please note: If reagents recommended for cooling are stored on a non-cooled position, a reduced on-board stability has to be anticipated.
If reagents, rinse solutions or buffers are not supplied in exactly fitting vials it is necessary to transfer them into appropiate vials.
The required controls have to be transferred into appropriate sample cups.

Limitations
Blood plasma substitutes that contain hydroxyethyl starch (HES) may interfere with the analysis. In a study with a HES solution (130/0.4) no interference was observed up to 3 g HES per liter plasma.

On-board Stability

Material	Time [h]
Dade® Innovin® Reagent	24

The stability data presented here were established under controlled laboratory conditions. Due to differences in laboratory environmental conditions and reagent vial fill volumes performance may vary. Please contact your local service representative to report any issues.

Interference Studies

No interferences up to ...		
Triglycerides	mg/dL	---*
Hemoglobin	mg/dL	100
Bilirubin	mg/dL	36

* Turbid samples are not suitable for Derived Fibrinogen determinations, as they may lead to abnormally low values. Interference of turbid samples may occure even if triglyceride concentrations are within the normal range. Any questionable results should be followed with a more definitive quantitative method.

Application Sheet for Derived Fibrinogen with Dade® Innovin®

Document ID: 3106040112
Release Date: June 2011

Performance Characteristics

The following studies were conducted using specimens collected in 3.2 % sodium citrate solution.

Method Comparison

Predicate Device	Regression Equation	r
Dade® Thrombin Reagent on Sysmex® CA-500 System	y = 1.25 x - 0.58	0.857

r = Correlation Coefficient

Precision

Acceptable variability (imprecision) should be such that the within device/lab CV of the analytical system on the same lot of control plasma is less than 10 %.

	mean value g/L	repeatability %	within device/lab %
Dade® Ci-Trol® 2	2.7	2.9	3.3
Normal plasma pool	3.0	2.4	4.1

Measuring Range

Results within the reference range can be directly reported. Results outside the reference range should be re-measured with a standard fibrinogen determination method (e.g. Fibrinogen with Dade® Thrombin Reagent or Fibrinogen with Multifibren* U Reagent).

Reference Interval

In a study with ostensibly healthy subjects the following data were obtained:

			Unit: g/L	
Comments	n	Mean	Median	2.5th - 97.5th Percentile
—	123	2.9	2.8	2.0 - 4.2

Reference intervals vary from laboratory to laboratory depending on technique used; therefore, each laboratory should establish its own reference interval.
For more information on establishing reference intervals see CLSI document C28-A3, “How to Define and Determine Reference Intervals in the Clinical Laboratory; Approved Guideline.”

Bibliography

Refer to the Instructions for Use of the reagent.

Manufacturer

Siemens Healthcare Diagnostics Products GmbH
Emil-von-Behring-Str. 76
35041 Marburg / Germany

USA Distributor

Siemens Healthcare Diagnostics Inc.
Newark, DE 19714 USA

CE

Application Sheet for Derived Fibrinogen with Dade® Innovin®

Document ID:	3106040112
Release Date:	June 2011

Test Protocol

Special Menu - Settings - Analysis Settings **- Test Protocol**

Test Protocol Name	PT	**STD-Link**	No
Detector	for PT INN		
End Point	50 %		
Maximum Time	100 sec		
Sensitivity	Low Gain		
Sample Vol	50 µL		
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
2nd Dil			
D.Samp Vol	0 µL		
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 1	180 sec		
Reag. Vol	PT INN	100 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 2	0 sec		
Reag. Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 3	0 sec		
Reag. Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0

Standard Curve Calibration

Important Note:
The recommendation for the Number Format in Calibration Parameter differs from the information that is given in the Instructions for Use of the analyzer. Please check your Host System for correct interpretation of transmitted results whenever the Number Format will be changed.

Calibration Parameter 4

Standard Curve **- Select Param.**

Param.	dFbg
Units	g/L or mg/dL
Number Format	XXX.X or XXXX
Curve Fit	—

Standard Curve - Manual Entry - **Next** (if applicable)
Enter the Derived Fibrinogen g/L or mg/dL concentrations and the dH of the Master Curve specified in the “Table of Assigned Values” of the specific Lot No. of the reagent used for the analyzer.

Data Check

Special Menu - Settings - Data Check

- Mark Limits	Select Param.	dFbg

Number of Replicates

Special Menu - Settings - Analysis Settings

- Set Replication	Replicates	1

Standard Curve (example only)

Verify the standard curve with the master curve provided with the PT reagent after each change of the reagent lot and modify, if necessary.

dFbg	
g/L	dH
2.0	43
4.2	84

Application Sheet for PT seconds with Dade® Thromboplastin C Plus

For additional information, limitations and interferences please refer to the Instructions for Use of the analyzer and check current Instructions for Use for reagents, controls and calibrators and tables of assigned/ analytical values.

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Release Date: June 2011
Valid from software version: 00-17

Distribution: ☒ outside USA ☐ global ☐ in USA only

The parameters defined in this application sheet have been developed by Siemens Healthcare Diagnostics to provide optimal product performance with the assay and instrument combination. Any modification to these parameters may affect performance of this and other assays in use on your system and the resulting assay values. It is the responsibility of the user to validate any modifications and their impact on all assay results. Results of this test should always be interpreted in conjunction with the patient's medical history, clinical presentation and other findings.
The application sheet lists all combinations of controls and calibrators for use with the reagent and instrument system; other combinations are not validated or supported by Siemens.

Materials Required

Material	Catalog #	Size	On-board position
Dade® Thromboplastin C Plus Reagent	B4216	4/10 mL	Reagent holder position 1 [1]
Dade® Ci-Trol® Coagulation Control Level 1	B4244-10	1 mL	Any position on sample rack
Dade® Ci-Trol® Coagulation Control Level 2	B4244-20	1 mL	
Dade® Ci-Trol® Coagulation Control Level 3	B4244-30	1 mL	
Control Plasma N	ORKE	1 mL	
CA CLEAN I	964-0631-3	50 mL	Rinse position 11
BC Vial Kit	OVKE	5 mL	—

Additional Notes

[1] Alternatively, any other cooled reagent position can be used.
Please note: If reagents recommended for cooling are stored on a non-cooled position, a reduced on-board stability has to be anticipated.
If reagents, rinse solutions or buffers are not supplied in exactly fitting vials it is necessary to transfer them into appropiate vials.
The required controls have to be transferred into appropriate sample cups.

On-board Stability

Material	Time [h]
Dade® Thromboplastin C Plus Reagent	24

The stability data presented here were established under controlled laboratory conditions. Due to differences in laboratory environmental conditions and reagent vial fill volumes performance may vary. Please contact your local service representative to report any issues.

Interference Studies

No interferences up to ...		
Triglycerides	mg/dL	600
Hemoglobin	mg/dL	1000
Bilirubin	mg/dL	60

Application Sheet for PT seconds with Dade® Thromboplastin C Plus

Document ID: 3101050110
Release Date: June 2011

Performance Characteristics

The following studies were conducted using specimens collected in 3.2 % sodium citrate solution.

Method Comparison

Predicate Device	Regression Equation	r
Dade® Thromboplastin C Plus Reagent on Sysmex® CA-6000 System	y = 1.00 x - 0.20	0.997

r = Correlation Coefficient

Precision

Acceptable variability (imprecision) should be such that the total coefficient of variation (CV) of the analytical system on the same lot of control plasma is less than 5 %.

	Within Run %	Run to Run %	Total %
Control Plasma N	0.4	0.2	0.4
Pathological plasma pool	0.5	0.6	0.8

Measuring Range

Refer to the Instructions for Use of the analyzer for additional information.

Reference Interval

In a study with ostensibly healthy subjects the following data were obtained:

			Unit: sec	
Comments	n	Mean	Median	5th - 95th Percentile
—	122	11.24	11.15	10.50 - 12.20

Reference intervals vary from laboratory to laboratory depending on the population served and the technique and reagent lot used. Therefore, each laboratory must establish its own reference intervals or verify them whenever one or more of the aforementioned variables are changed.

For more information on establishing reference intervals see CLSI document C28-A3, “How to Define and Determine Reference Intervals in the Clinical Laboratory; Approved Guideline.”

Bibliography

Refer to the Instructions for Use of the reagent.

Manufacturer

Siemens Healthcare Diagnostics Products GmbH
Emil-von-Behring-Str. 76
35041 Marburg / Germany

USA Distributor

Siemens Healthcare Diagnostics Inc.
Newark, DE 19714 USA

Application Sheet for PT seconds with Dade® Thromboplastin C Plus

Document ID:	3101050110
Release Date:	June 2011

Test Protocol

Special Menu - Settings - Analysis Settings **- Test Protocol**

Test Protocol Name	PT	**STD-Link**	No
Detector	for PT TPC+		
End Point	50 %		
Maximum Time	100 sec		
Sensitivity	Low Gain		
Sample Vol	50 µL		
Dil.Vol	******* 0 µL		
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
2nd Dil			
D.Samp Vol	0 µL		
Dil.Vol	******* 0 µL		
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 1	180 sec		
Reag. Vol	PT TPC+ 100 µL		
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 2	0 sec		
Reag. Vol	******* 0 µL		
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 3	0 sec		
Reag. Vol	******* 0 µL		
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0

Standard Curve Calibration

The assay is not calibrated.

Data Check

Special Menu - Settings - Data Check

- Mark Limits	Select Param.	PT

Number of Replicates

Special Menu - Settings - Analysis Settings

- Set Replication	Replicates	1

Application Sheet for PT INR with Dade® Thromboplastin C Plus

For additional information, limitations and interferences please refer to the Instructions for Use of the analyzer and check current Instructions for Use for reagents, controls and calibrators and tables of assigned/ analytical values.

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Release Date: June 2011
Valid from software version: 00-17

Distribution: ☒ outside USA ☐ global ☐ in USA only

The parameters defined in this application sheet have been developed by Siemens Healthcare Diagnostics to provide optimal product performance with the assay and instrument combination. Any modification to these parameters may affect performance of this and other assays in use on your system and the resulting assay values. It is the responsibility of the user to validate any modifications and their impact on all assay results. Results of this test should always be interpreted in conjunction with the patient's medical history, clinical presentation and other findings.
The application sheet lists all combinations of controls and calibrators for use with the reagent and instrument system; other combinations are not validated or supported by Siemens.

Materials Required

Material	Catalog #	Size	On-board position
Dade® Thromboplastin C Plus Reagent	B4216	4/10 mL	Reagent holder position 1 [1]
Dade® Ci-Trol® Coagulation Control Level 1	B4244-10	1 mL	Any position on sample rack
Dade® Ci-Trol® Coagulation Control Level 2	B4244-20	1 mL	
Dade® Ci-Trol® Coagulation Control Level 3	B4244-30	1 mL	
Control Plasma N	ORKE	1 mL	
CA CLEAN I	964-0631-3	50 mL	Rinse position 11
BC Vial Kit	OVKE	5 mL	—

Additional Notes

[1] Alternatively, any other cooled reagent position can be used.
Please note: If reagents recommended for cooling are stored on a non-cooled position, a reduced on-board stability has to be anticipated.
If reagents, rinse solutions or buffers are not supplied in exactly fitting vials it is necessary to transfer them into appropiate vials.
The required controls have to be transferred into appropriate sample cups.

On-board Stability

Material	Time [h]
Dade® Thromboplastin C Plus Reagent	24

The stability data presented here were established under controlled laboratory conditions. Due to differences in laboratory environmental conditions and reagent vial fill volumes performance may vary. Please contact your local service representative to report any issues.

Interference Studies

No interferences up to ...		
Triglycerides	mg/dL	600
Hemoglobin	mg/dL	1000
Bilirubin	mg/dL	60

Application Sheet for PT INR with Dade® Thromboplastin C Plus

Document ID:	3104050110
Release Date:	June 2011

Performance Characteristics

The following studies were conducted using specimens collected in 3.2 % sodium citrate solution.

Method Comparison

Predicate Device	Regression Equation	r
Dade® Thromboplastin C Plus Reagent on Sysmex® CA-6000 System	y = 1.00 x - 0.00	0.998

r = Correlation Coefficient

Precision

Acceptable variability (imprecision) should be such that the total coefficient of variation (CV) of the analytical system on the same lot of control plasma is less than 5 %.

	Within Run %	Run to Run %	Total %
Control Plasma N	0.7	0.4	0.7
Pathological plasma pool	1.1	1.1	1.5

Measuring Range

Refer to the Instructions for Use of the analyzer for additional information.

Reference Interval

Not applicable.

Bibliography

Refer to the Instructions for Use of the reagent.

Manufacturer

Siemens Healthcare Diagnostics Products GmbH
Emil-von-Behring-Str. 76
35041 Marburg / Germany

USA Distributor

Siemens Healthcare Diagnostics Inc.
Newark, DE 19714 USA

Application Sheet for PT INR with Dade® Thromboplastin C Plus

Document ID: 3104050110
Release Date: June 2011

Test Protocol

Special Menu - Settings - Analysis Settings **- Test Protocol**

Test Protocol Name	PT	**STD-Link**	No
Detector	for PT TPC+		
End Point	50 %		
Maximum Time	100 sec		
Sensitivity	Low Gain		
Sample Vol	50 µL		
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
2nd Dil			
D.Samp Vol	0 µL		
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 1	180 sec		
Reag. Vol	PT TPC+	100 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 2	0 sec		
Reag. Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 3	0 sec		
Reag. Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0

Standard Curve Calibration

Calibration Parameter 3
Standard Curve **- Select Param.**

Param.	PT-INR
Units	—
Number Format	XX.XX
Curve Fit	ISI Input

Standard Curve - Manual Entry - **Next** (if applicable)
Enter the Normal seconds = MNPT and the ISI.

Data Check

Special Menu - Settings - Data Check

- Mark Limits	Select Param.	PT-INR

Number of Replicates

Special Menu - Settings - Analysis Settings

- Set Replication	Replicates	1

Remarks

System specific MNPT and ISI have to be used.
ISI values for prothrombin time assays must be entered directly as they appear on the current reagent labeling. Any changes of reagent lot, software upgrades, major servicing, etc., require verification of the ISI value. Failure to enter the correct ISI value will cause incorrect International Normalization Ratio (INR) results.

Application Sheet for PT INR calibrated with Dade® Thromboplastin C Plus

For additional information, limitations and interferences please refer to the Instructions for Use of the analyzer and check current Instructions for Use for reagents, controls and calibrators and tables of assigned/ analytical values.

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Release Date: June 2011
Valid from software version: 00-17

Distribution: ☒ outside USA ☐ global ☐ in USA only

The parameters defined in this application sheet have been developed by Siemens Healthcare Diagnostics to provide optimal product performance with the assay and instrument combination. Any modification to these parameters may affect performance of this and other assays in use on your system and the resulting assay values. It is the responsibility of the user to validate any modifications and their impact on all assay results. Results of this test should always be interpreted in conjunction with the patient's medical history, clinical presentation and other findings.
The application sheet lists all combinations of controls and calibrators for use with the reagent and instrument system; other combinations are not validated or supported by Siemens.

Materials Required

Material	Catalog #	Size	On-board position
Dade® Thromboplastin C Plus Reagent	B4216	4/10 mL	Reagent holder position 1 [1]
PT-Multi Calibrator	OPAT	6 x 1 mL	Sample rack position 1 - 6
Dade® Ci-Trol® Coagulation Control Level 1	B4244-10	1 mL	Any position on sample rack
Dade® Ci-Trol® Coagulation Control Level 2	B4244-20	1 mL	
Dade® Ci-Trol® Coagulation Control Level 3	B4244-30	1 mL	
Control Plasma N	ORKE	1 mL	
CA CLEAN I	964-0631-3	50 mL	Rinse position 11
BC Vial Kit	OVKE	5 mL	—

Additional Notes

[1] Alternatively, any other cooled reagent position can be used.
Please note: If reagents recommended for cooling are stored on a non-cooled position, a reduced on-board stability has to be anticipated.
If reagents, rinse solutions or buffers are not supplied in exactly fitting vials it is necessary to transfer them into appropiate vials.
The required controls and calibrators have to be transferred into appropriate sample cups.

On-board Stability

Material	Time [h]
Dade® Thromboplastin C Plus Reagent	24

The stability data presented here were established under controlled laboratory conditions. Due to differences in laboratory environmental conditions and reagent vial fill volumes performance may vary. Please contact your local service representative to report any issues.

Interference Studies

No interferences up to ...		
Triglycerides	mg/dL	309
Hemoglobin	mg/dL	400
Bilirubin	mg/dL	36

Application Sheet for PT INR calibrated with Dade® Thromboplastin C Plus

Document ID:	3105050110
Release Date:	June 2011

Performance Characteristics

The following studies were conducted using specimens collected in 3.2 % sodium citrate solution.

Method Comparison

Predicate Device	Regression Equation	r
Calib. with MNPT/ISI using Dade® Thromboplastin C Plus Reagent on Sysmex® CA-500 series System	y = 1.06 x - 0.10	1.000

r = Correlation Coefficient

Precision

Acceptable variability (imprecision) should be such that the total coefficient of variation (CV) of the analytical system on the same lot of control plasma is less than 5 %.

	Within Run %	Run to Run %	Total %
Control Plasma N	1.3	1.0	1.6
Pathological plasma pool	1.0	1.0	1.4

Measuring Range

The measuring range is defined by the concentration of the calibrators used.

Reference Interval

Not applicable.

Bibliography

Refer to the Instructions for Use of the reagent.

Manufacturer

Siemens Healthcare Diagnostics Products GmbH
Emil-von-Behring-Str. 76
35041 Marburg / Germany

USA Distributor

Siemens Healthcare Diagnostics Inc.
Newark, DE 19714 USA

Application Sheet for PT INR calibrated with Dade® Thromboplastin C Plus

Document ID:	3105050110
Release Date:	June 2011

Test Protocol

Special Menu - Settings - Analysis Settings **- Test Protocol**

Test Protocol Name	PT	**STD-Link**	No
Detector	for PT TPC+		
End Point	50 %		
Maximum Time	100 sec		
Sensitivity	Low Gain		
Sample Vol	50 µL		
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
2nd Dil			
D.Samp Vol	0 µL		
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 1	180 sec		
Reag. Vol	PT TPC+	100 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 2	0 sec		
Reag. Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 3	0 sec		
Reag. Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0

Standard Curve Calibration

Calibration Parameter 3

Standard Curve **- Select Param.**

Param.	PT-INR
Units	—
Number Format	XX.XX
Curve Fit	Calibration

Standard Curve **- Standard Analysis**

Select Dilution Set	M
Calibrator	PT-Multi Calibrator

Refer to the table of analytical values for the lot specific calibrator value.

		Repl.
Calib. or Dil.Ratio 1	Calibrator 1	2
Calib. or Dil.Ratio 2	Calibrator 2	2
Calib. or Dil.Ratio 3	Calibrator 3	2
Calib. or Dil.Ratio 4	Calibrator 4	2
Calib. or Dil.Ratio 5	Calibrator 5	2
Calib. or Dil.Ratio 6	Calibrator 6	2

Data Check

Special Menu - Settings - Data Check

- Mark Limits
- Report Limits

Select Param.	PT-INR
lower (<)	0.80
upper (>)	6.00

Number of Replicates

Special Menu - Settings - Analysis Settings

- Set Replication

Replicates	1

Standard Curve (example only)

A new standard curve should be established with each change of reagent lot or with any deviation from controls or proficiency testing limits.

PT-INR

—	sec
0.91	10.9
1.12	12.1
1.36	13.5
2.19	17.1
4.46	24.9
6.47	30.6

Remarks

If the Derived Fibrinogen method is also used on the instrument, the Derived Fibrinogen method has to be disabled during the calibration with PT-Multi Calibrator to avoid overwriting the Derived Fibrinogen master curve.
- Press [Standard Curve] - [Select Param.], disable the parameter No. 4 “dFbg”
- Perform calibration with PT-Multi Calibrator according to the Application Sheet
- Press [Standard Curve] - [Select Param.], enable the parameter No. 4 “dFbg”

Nevertheless, please check all calibration curve data afterwards.

Application Sheet for Derived Fibrinogen with Dade® Thromboplastin C Plus

For additional information, limitations and interferences please refer to the Instructions for Use of the analyzer and check current Instructions for Use for reagents, controls and calibrators and tables of assigned/ analytical values.

Document ID: 3106050110	
Release Date: June 2011	
Valid from software version: 00-17	
Distribution:	☒ outside USA
☐ global	☐ in USA only

The parameters defined in this application sheet have been developed by Siemens Healthcare Diagnostics to provide optimal product performance with the assay and instrument combination. Any modification to these parameters may affect performance of this and other assays in use on your system and the resulting assay values. It is the responsibility of the user to validate any modifications and their impact on all assay results. Results of this test should always be interpreted in conjunction with the patient's medical history, clinical presentation and other findings.
The application sheet lists all combinations of controls and calibrators for use with the reagent and instrument system; other combinations are not validated or supported by Siemens.

Materials Required

Material	Catalog #	Size	On-board position
Dade® Thromboplastin C Plus Reagent	B4216	4/10 mL	Reagent holder position 1 [1]
Dade® Ci-Trol® 1	291070	1 mL	Any position on sample rack
Dade® Ci-Trol® Coagulation Control Level 1	B4244-10	1 mL	
Control Plasma N	ORKE	1 mL	
CA CLEAN I	964-0631-3	50 mL	Rinse position 11
BC Vial Kit	OVKE	5 mL	—

Additional Notes

[1] Alternatively, any other cooled reagent position can be used.
Please note: If reagents recommended for cooling are stored on a non-cooled position, a reduced on-board stability has to be anticipated.
If reagents, rinse solutions or buffers are not supplied in exactly fitting vials it is necessary to transfer them into appropiate vials.
The required controls have to be transferred into appropriate sample cups.

Limitations
Blood plasma substitutes that contain hydroxyethyl starch (HES) may interfere with the analysis.

On-board Stability

Material	Time [h]
Dade® Thromboplastin C Plus Reagent	24

The stability data presented here were established under controlled laboratory conditions. Due to differences in laboratory environmental conditions and reagent vial fill volumes performance may vary. Please contact your local service representative to report any issues.

Interference Studies

No interferences up to ...		
Triglycerides	mg/dL	---*
Hemoglobin	mg/dL	200
Bilirubin	mg/dL	24

* Turbid samples are not suitable for Derived Fibrinogen determinations, as they may lead to abnormally low values. Interference of turbid samples may occure even if triglyceride concentrations are within the normal range. Any questionable results should be followed with a more definitive quantitative method.

Application Sheet for Derived Fibrinogen with Dade® Thromboplastin C Plus

Document ID:	3106050110
Release Date:	June 2011

Performance Characteristics

The following studies were conducted using specimens collected in 3.2 % sodium citrate solution.

Method Comparison

Predicate Device	Regression Equation	r
Dade® Thromboplastin C Plus Reagent on Sysmex® CA-6000 System	y = 1.12 x + 0.03	0.998

r = Correlation Coefficient

Precision

Acceptable variability (imprecision) should be such that the total coefficient of variation (CV) of the analytical system on the same lot of control plasma is less than 10 %.

	Within Run %	Run to Run %	Total %
Control Plasma N	1.5	1.3	1.9
Pathological plasma pool	1.6	0.6	1.6

Measuring Range

The measuring range is defined by the master curve.

Reference Interval

1.8 - 3.5 g/L [2]

Reference intervals vary from laboratory to laboratory depending on technique used; therefore, each laboratory should establish its own reference interval.

For more information on establishing reference intervals see CLSI document C28-A3, “How to Define and Determine Reference Intervals in the Clinical Laboratory; Approved Guideline.”

Bibliography

Refer to the Instructions for Use of the reagent.

[2] Thomas, Lothar, “Clinical Laboratory Diagnostics”, TH-Books Verlagsgesellschaft mbH, Frankfurt/Main, Germany, 1998: 610.

Manufacturer

Siemens Healthcare Diagnostics Products GmbH
Emil-von-Behring-Str. 76
35041 Marburg / Germany

USA Distributor

Siemens Healthcare Diagnostics Inc.
Newark, DE 19714 USA

Application Sheet for Derived Fibrinogen with Dade® Thromboplastin C Plus

Document ID:	3106050110
Release Date:	June 2011

Test Protocol

Special Menu - Settings - Analysis Settings **- Test Protocol**

Test Protocol Name	PT	**STD-Link**	No
Detector	for PT TPC+		
End Point	50 %		
Maximum Time	100 sec		
Sensitivity	Low Gain		
Sample Vol	50 µL		
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
2nd Dil			
D.Samp Vol	0 µL		
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 1	180 sec		
Reag. Vol	PT TPC+	100 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 2	0 sec		
Reag. Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 3	0 sec		
Reag. Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0

Standard Curve Calibration

Important Note:
The recommendation for the Number Format in Calibration Parameter differs from the information that is given in the Instructions for Use of the analyzer. Please check your Host System for correct interpretation of transmitted results whenever the Number Format will be changed.

Calibration Parameter 4

Standard Curve **- Select Param.**

Param.	dFbg
Units	g/L or mg/dL
Number Format	XXX.X or XXXX
Curve Fit	—

Standard Curve - Manual Entry - **Next** (if applicable)
Enter the Derived Fibrinogen g/L or mg/dL concentrations and the dH of the Master Curve specified in the “Table of Assigned Values” of the specific Lot No. of the reagent used for the analyzer.

Data Check

Special Menu - Settings - Data Check

- Mark Limits	Select Param.	dFbg

Number of Replicates

Special Menu - Settings - Analysis Settings

- Set Replication	Replicates	1

Standard Curve (example only)

Verify the standard curve with the master curve provided with the PT reagent after each change of the reagent lot and modify, if necessary.

dFbg	
g/L	dH
1.0	34
10.0	388

Application Sheet for APTT with Dade® Actin® Activated Cephaloplastin Reagent

For additional information, limitations and interferences please refer to the Instructions for Use of the analyzer and check current Instructions for Use for reagents, controls and calibrators and tables of assigned/ analytical values.

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Distribution: ☒ outside USA ☐ global ☐ in USA only

The parameters defined in this application sheet have been developed by Siemens Healthcare Diagnostics to provide optimal product performance with the assay and instrument combination. Any modification to these parameters may affect performance of this and other assays in use on your system and the resulting assay values. It is the responsibility of the user to validate any modifications and their impact on all assay results. Results of this test should always be interpreted in conjunction with the patient's medical history, clinical presentation and other findings.
The application sheet lists all combinations of controls and calibrators for use with the reagent and instrument system; other combinations are not validated or supported by Siemens.

Materials Required

Material	Catalog #	Size	On-board position
Dade® Actin® Activated Cephaloplastin Reagent	B4218-1/-2	2/10 mL	Reagent holder position 2 [1]
Calcium Chloride Solution	ORHO	15 mL	Reagent holder position 7 [2]
Dade® Ci-Trol® 1	291070	1 mL	Any position on sample rack
Dade® Ci-Trol® 2	291071	1 mL	
Dade® Ci-Trol® 3	291072	1 mL	
Dade® Ci-Trol® Coagulation Control Level 1	B4244-10	1 mL	
Dade® Ci-Trol® Coagulation Control Level 2	B4244-20	1 mL	
Dade® Ci-Trol® Coagulation Control Level 3	B4244-30	1 mL	
Control Plasma N	ORKE	1 mL	
CA CLEAN I	964-0631-3	50 mL	Rinse position 11
BC Vial Kit	OVKE	5 mL	—

Additional Notes

[1] Alternatively, any other cooled reagent position can be used.
Please note: If reagents recommended for cooling are stored on a non-cooled position, a reduced on-board stability has to be anticipated.
[2] Alternatively, any other non-cooled reagent position (positions 5 to 10) can be used.
If reagents, rinse solutions or buffers are not supplied in exactly fitting vials it is necessary to transfer them into appropiate vials.
The required controls have to be transferred into appropriate sample cups.

On-board Stability

Material	Time [h]
Dade® Actin® Reagent (cooled pos.)	48
Dade® Actin® Reagent (non-cooled pos.)	24
Calcium Chloride Solution	48

The stability data presented here were established under controlled laboratory conditions. Due to differences in laboratory environmental conditions and reagent vial fill volumes performance may vary. Please contact your local service representative to report any issues.

Interference Studies

No interferences up to ...		
Triglycerides	mg/dL	337
Hemoglobin	mg/dL	40
Bilirubin	mg/dL	12

Application Sheet for APTT with Dade® Actin® Activated Cephaloplastin Reagent

Document ID: 3110120111
Release Date: June 2011

Performance Characteristics

The following studies were conducted using specimens collected in 3.2 % sodium citrate solution.

Method Comparison

Predicate Device	Regression Equation	r
Dade® Actin® Activated Cephaloplastin Reagent on Sysmex® CA-6000 System	y = 1.00 x - 0.20	0.982

r = Correlation Coefficient

Precision

Acceptable variability (imprecision) should be such that the total coefficient of variation (CV) of the analytical system on the same lot of control plasma is less than 5 %.

	Within Run %	Run to Run %	Total %
Control Plasma N	1.0	3.4	3.5
Dade® Ci-Trol® 3	0.6	1.3	1.4

Measuring Range

Refer to the Instructions for Use of the analyzer for additional information.

Reference Interval

In a study with ostensibly healthy subjects the following data were obtained:

			Unit: s	
Comments	n	Mean	Median	5th - 95th Percentile
—	111	25.7	25.6	21.4 - 30.6

Reference intervals vary from laboratory to laboratory depending on the population served and the technique and reagent lot used. Therefore, each laboratory must establish its own reference intervals or verify them whenever one or more of the aforementioned variables are changed.

For more information on establishing reference intervals see CLSI document C28-A3, “How to Define and Determine Reference Intervals in the Clinical Laboratory; Approved Guideline.”

Bibliography

Refer to the Instructions for Use of the reagent.

Manufacturer

Siemens Healthcare Diagnostics Products GmbH
Emil-von-Behring-Str. 76
35041 Marburg / Germany

USA Distributor

Siemens Healthcare Diagnostics Inc.
Newark, DE 19714 USA

CE

Application Sheet for APTT with Dade® Actin® Activated Cephaloplastin Reagent

Document ID:	3110120111
Release Date:	June 2011

Test Protocol

Special Menu - Settings - Analysis Settings **- Test Protocol**

Test Protocol Name	APTT	**STD-Link**	No
Detector	for PTT ACT		
End Point	50 %		
Maximum Time	190 sec		
Sensitivity	Low Gain		
Sample Vol	50 µL		
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
2nd Dil			
D.Samp Vol	0 µL		
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 1	60 sec		
Reag. Vol	PTT ACT	50 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 2	240 sec		
Reag. Vol	CaCl2	50 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 3	0 sec		
Reag. Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0

Standard Curve Calibration

The assay is not calibrated.

Data Check

Special Menu - Settings - Data Check

- Mark Limits	Select Param.	APTT

Number of Replicates

Special Menu - Settings - Analysis Settings

- Set Replication	Replicates	1

Application Sheet for APTT with Dade® Actin® FS Activated PTT Reagent

For additional information, limitations and interferences please refer to the Instructions for Use of the analyzer and check current Instructions for Use for reagents, controls and calibrators and tables of assigned/ analytical values.

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The parameters defined in this application sheet have been developed by Siemens Healthcare Diagnostics to provide optimal product performance with the assay and instrument combination. Any modification to these parameters may affect performance of this and other assays in use on your system and the resulting assay values. It is the responsibility of the user to validate any modifications and their impact on all assay results. Results of this test should always be interpreted in conjunction with the patient's medical history, clinical presentation and other findings.
The application sheet lists all combinations of controls and calibrators for use with the reagent and instrument system; other combinations are not validated or supported by Siemens.

Materials Required

Material	Catalog #	Size	On-board position
Dade® Actin® FS Activated PTT Reagent	B4218-20/-100	2/10 mL	Reagent holder position 2 [1]
Calcium Chloride Solution	ORHO	15 mL	Reagent holder position 7 [2]
Dade® Ci-Trol® 1	291070	1 mL	Any position on sample rack
Dade® Ci-Trol® 2	291071	1 mL	
Dade® Ci-Trol® 3	291072	1 mL	
Dade® Ci-Trol® Coagulation Control Level 1	B4244-10	1 mL	
Dade® Ci-Trol® Coagulation Control Level 2	B4244-20	1 mL	
Dade® Ci-Trol® Coagulation Control Level 3	B4244-30	1 mL	
Control Plasma N	ORKE	1 mL	
CA CLEAN I	964-0631-3	50 mL	Rinse position 11
BC Vial Kit	OVKE	5 mL	—

Additional Notes

[1] Alternatively, any other cooled reagent position can be used.
Please note: If reagents recommended for cooling are stored on a non-cooled position, a reduced on-board stability has to be anticipated.
[2] Alternatively, any other non-cooled reagent position (positions 5 to 10) can be used.
If reagents, rinse solutions or buffers are not supplied in exactly fitting vials it is necessary to transfer them into appropiate vials.
The required controls have to be transferred into appropriate sample cups.

On-board Stability

Material	Time [h]
Dade® Actin® FS Reagent (cooled pos.)	48
Dade® Actin® FS Reagent (non-cooled pos.)	24
Calcium Chloride Solution	48

The stability data presented here were established under controlled laboratory conditions. Due to differences in laboratory environmental conditions and reagent vial fill volumes performance may vary. Please contact your local service representative to report any issues.

Interference Studies

No interferences up to ...		
Triglycerides	mg/dL	331
Hemoglobin	mg/dL	1000
Bilirubin	mg/dL	6

Application Sheet for APTT with Dade® Actin® FS Activated PTT Reagent

Document ID: 3110130111
Release Date: June 2011

Performance Characteristics

The following studies were conducted using specimens collected in 3.2 % sodium citrate solution.

Method Comparison

Predicate Device	Regression Equation	r
Dade® Actin® FS Activated PTT Reagent on Sysmex® CA-6000 System	y = 1.00 x + 0.10	0.983

r = Correlation Coefficient

Precision

Acceptable variability (imprecision) should be such that the total coefficient of variation (CV) of the analytical system on the same lot of control plasma is less than 5 %.

	Within Run %	Run to Run %	Total %
Control Plasma N	0.5	0.2	0.5
Dade® Ci-Trol® 3	0.3	1.5	1.5

Measuring Range

Refer to the Instructions for Use of the analyzer for additional information.

Reference Interval

In a study with ostensibly healthy subjects the following data were obtained:

			Unit: s	
Comments	n	Mean	Median	5th - 95th Percentile
—	111	24.8	24.6	21.8 - 28.0

Reference intervals vary from laboratory to laboratory depending on the population served and the technique and reagent lot used. Therefore, each laboratory must establish its own reference intervals or verify them whenever one or more of the aforementioned variables are changed.

For more information on establishing reference intervals see CLSI document C28-A3, “How to Define and Determine Reference Intervals in the Clinical Laboratory; Approved Guideline.”

Bibliography

Refer to the Instructions for Use of the reagent.

Manufacturer

Siemens Healthcare Diagnostics Products GmbH
Emil-von-Behring-Str. 76
35041 Marburg / Germany

USA Distributor

Siemens Healthcare Diagnostics Inc.
Newark, DE 19714 USA

CE

Application Sheet for APTT with Dade® Actin® FS Activated PTT Reagent

Document ID:	3110130111
Release Date:	June 2011

Test Protocol

Special Menu - Settings - Analysis Settings **- Test Protocol**

Test Protocol Name	APTT	**STD-Link**	No
Detector	for PTT FS		
End Point	50 %		
Maximum Time	190 sec		
Sensitivity	Low Gain		
Sample Vol	50 µL		
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
2nd Dil			
D.Samp Vol	0 µL		
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 1	60 sec		
Reag. Vol	PTT FS	50 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 2	240 sec		
Reag. Vol	CaCl2	50 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 3	0 sec		
Reag. Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0

Standard Curve Calibration

The assay is not calibrated.

Data Check

Special Menu - Settings - Data Check

- Mark Limits	Select Param.	APTT

Number of Replicates

Special Menu - Settings - Analysis Settings

- Set Replication	Replicates	1

Application Sheet for APTT with Dade® Actin® FSL Activated PTT Reagent

For additional information, limitations and interferences please refer to the Instructions for Use of the analyzer and check current Instructions for Use for reagents, controls and calibrators and tables of assigned/ analytical values.

Document ID:	3110140111
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☐ global	☐ in USA only

The parameters defined in this application sheet have been developed by Siemens Healthcare Diagnostics to provide optimal product performance with the assay and instrument combination. Any modification to these parameters may affect performance of this and other assays in use on your system and the resulting assay values. It is the responsibility of the user to validate any modifications and their impact on all assay results. Results of this test should always be interpreted in conjunction with the patient's medical history, clinical presentation and other findings.
The application sheet lists all combinations of controls and calibrators for use with the reagent and instrument system; other combinations are not validated or supported by Siemens.

Materials Required

Material	Catalog #	Size	On-board position
Dade® Actin® FSL Activated PTT Reagent	B4219	2/10 mL	Reagent holder position 2 [1]
Calcium Chloride Solution	ORHO	15 mL	Reagent holder position 7 [2]
Dade® Ci-Trol® 1	291070	1 mL	Any position on sample rack
Dade® Ci-Trol® 2	291071	1 mL	
Dade® Ci-Trol® 3	291072	1 mL	
Dade® Ci-Trol® Coagulation Control Level 1	B4244-10	1 mL	
Dade® Ci-Trol® Coagulation Control Level 2	B4244-20	1 mL	
Dade® Ci-Trol® Coagulation Control Level 3	B4244-30	1 mL	
Control Plasma N	ORKE	1 mL	
CA CLEAN I	964-0631-3	50 mL	Rinse position 11
BC Vial Kit	OVKE	5 mL	—

Additional Notes

[1] Alternatively, any other cooled reagent position can be used.
Please note: If reagents recommended for cooling are stored on a non-cooled position, a reduced on-board stability has to be anticipated.
[2] Alternatively, any other non-cooled reagent position (positions 5 to 10) can be used.
If reagents, rinse solutions or buffers are not supplied in exactly fitting vials it is necessary to transfer them into appropiate vials.
The required controls have to be transferred into appropriate sample cups.

On-board Stability

Material	Time [h]
Dade® Actin® FSL Reagent (cooled pos.)	48
Dade® Actin® FSL Reagent (non-cooled pos.)	24
Calcium Chloride Solution	48

The stability data presented here were established under controlled laboratory conditions. Due to differences in laboratory environmental conditions and reagent vial fill volumes performance may vary. Please contact your local service representative to report any issues.

Interference Studies

No interferences up to ...		
Triglycerides	mg/dL	331
Hemoglobin	mg/dL	200
Bilirubin	mg/dL	12

Application Sheet for APTT with Dade® Actin® FSL Activated PTT Reagent

Document ID: 3110140111
Release Date: June 2011

Performance Characteristics

The following studies were conducted using specimens collected in 3.2 % sodium citrate solution.

Method Comparison

Predicate Device	Regression Equation	r
Dade® Actin® FSL Activated PTT Reagent on Sysmex® CA-6000 System	y = 1.00 x + 0.10	0.990

r = Correlation Coefficient

Precision

Acceptable variability (imprecision) should be such that the total coefficient of variation (CV) of the analytical system on the same lot of control plasma is less than 5 %.

	Within Run %	Run to Run %	Total %
Control Plasma N	0.4	0.2	0.4
Dade® Ci-Trol® 3	0.4	1.4	1.5

Measuring Range

Refer to the Instructions for Use of the analyzer for additional information.

Reference Interval

In a study with ostensibly healthy subjects the following data were obtained:

				Unit: s
Comments	n	Mean	Median	5th - 95th Percentile
—	111	27.9	27.7	24.5 - 32.8

Reference intervals vary from laboratory to laboratory depending on the population served and the technique and reagent lot used. Therefore, each laboratory must establish its own reference intervals or verify them whenever one or more of the aforementioned variables are changed.

For more information on establishing reference intervals see CLSI document C28-A3, “How to Define and Determine Reference Intervals in the Clinical Laboratory; Approved Guideline.”

Bibliography

Refer to the Instructions for Use of the reagent.

Manufacturer

Siemens Healthcare Diagnostics Products GmbH
Emil-von-Behring-Str. 76
35041 Marburg / Germany

USA Distributor

Siemens Healthcare Diagnostics Inc.
Newark, DE 19714 USA

CE

Application Sheet for APTT with Dade® Actin® FSL Activated PTT Reagent

Document ID:	3110140111
Release Date:	June 2011

Test Protocol

Special Menu - Settings - Analysis Settings **- Test Protocol**

Test Protocol Name	APTT	**STD-Link**	No
Detector	for PTT FSL		
End Point	50 %		
Maximum Time	190 sec		
Sensitivity	Low Gain		
Sample Vol	50 µL		
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
2nd Dil			
D.Samp Vol	0 µL		
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 1	60 sec		
Reag. Vol	PTT FSL	50 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 2	240 sec		
Reag. Vol	CaCl2	50 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 3	0 sec		
Reag. Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0

Standard Curve Calibration

The assay is not calibrated.

Data Check

Special Menu - Settings - Data Check

- Mark Limits	Select Param.	APTT

Number of Replicates

Special Menu - Settings - Analysis Settings

- Set Replication	Replicates	1

Remarks

As an alternative protocol it is admitted to extend the Maximum Time to 300 seconds if long coagulation times are expected.
According to Sysmex' troubleshooting instructions (CA series Measurement Evaluation and Check Methods), the Maximum Time can be extended to 600 seconds, if an Analysis Time Over error still persists with the measurement.

Application Sheet for APTT with Pathromtin* SL

For additional information, limitations and interferences please refer to the Instructions for Use of the analyzer and check current Instructions for Use for reagents, controls and calibrators and tables of assigned/ analytical values.

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The application sheet lists all combinations of controls and calibrators for use with the reagent and instrument system; other combinations are not validated or supported by Siemens.

Materials Required

Material	Catalog #	Size	On-board position
Pathromtin* SL Reagent	OQGS	5 mL	Reagent holder position 2 [1]
Calcium Chloride Solution	ORHO	15 mL	Reagent holder position 7 [2]
Dade® Ci-Trol® 1	291070	1 mL	Any position on sample rack
Dade® Ci-Trol® 2	291071	1 mL	
Dade® Ci-Trol® 3	291072	1 mL	
Dade® Ci-Trol® Coagulation Control Level 1	B4244-10	1 mL	
Dade® Ci-Trol® Coagulation Control Level 2	B4244-20	1 mL	
Dade® Ci-Trol® Coagulation Control Level 3	B4244-30	1 mL	
Control Plasma N	ORKE	1 mL	
CA CLEAN I	964-0631-3	50 mL	Rinse position 11
BC Vial Kit	OVKE	5 mL	—

Additional Notes

[1] Alternatively, any other cooled reagent position can be used.
Please note: If reagents recommended for cooling are stored on a non-cooled position, a reduced on-board stability has to be anticipated.
[2] Alternatively, any other non-cooled reagent position (positions 5 to 10) can be used.
If reagents, rinse solutions or buffers are not supplied in exactly fitting vials it is necessary to transfer them into appropiate vials.
The required controls have to be transferred into appropriate sample cups.
Pathromtin* SL Reagent must be gently inverted (5 to 8 times) to mix before first use.

On-board Stability

Material	Time [h]
Pathromtin* SL Reagent (cooled pos.)	48
Pathromtin* SL Reagent (non-cooled pos.)	24
Calcium Chloride Solution	48

The stability data presented here were established under controlled laboratory conditions. Due to differences in laboratory environmental conditions and reagent vial fill volumes performance may vary. Please contact your local service representative to report any issues.

Interference Studies

No interferences up to ...		
Triglycerides	mg/dL	378
Hemoglobin	mg/dL	200
Bilirubin	mg/dL	2.4

Application Sheet for APTT with Pathromtin* SL

Document ID: 3110110111
Release Date: June 2011

Performance Characteristics

The following studies were conducted using specimens collected in 3.2 % sodium citrate solution.

Method Comparison

Predicate Device	Regression Equation	r
Pathromtin* SL Reagent on Sysmex® CA-6000 System	y = 0.99 x - 1.10	0.968

r = Correlation Coefficient

Precision

Acceptable variability (imprecision) should be such that the total coefficient of variation (CV) of the analytical system on the same lot of control plasma is less than 5 %.

	Within Run %	Run to Run %	Total %
Dade® Ci-Trol® 1	0.6	1.2	1.3
Dade® Ci-Trol® 2	0.9	2.4	2.5

Measuring Range

Refer to the Instructions for Use of the analyzer for additional information.

Reference Interval

In a study with ostensibly healthy subjects the following data were obtained:

			Unit: s	
Comments	n	Mean	Median	5th - 95th Percentile
—	110	34.1	33.8	29.0 - 40.2

Reference intervals vary from laboratory to laboratory depending on the population served and the technique and reagent lot used. Therefore, each laboratory must establish its own reference intervals or verify them whenever one or more of the aforementioned variables are changed.

For more information on establishing reference intervals see CLSI document C28-A3, “How to Define and Determine Reference Intervals in the Clinical Laboratory; Approved Guideline.”

Bibliography

Refer to the Instructions for Use of the reagent.

Manufacturer

Siemens Healthcare Diagnostics Products GmbH
Emil-von-Behring-Str. 76
35041 Marburg / Germany

USA Distributor

Siemens Healthcare Diagnostics Inc.
Newark, DE 19714 USA

CE

Application Sheet for APTT with Pathromtin* SL

Document ID:	3110110111
Release Date:	June 2011

Test Protocol

Special Menu - Settings - Analysis Settings **- Test Protocol**

Test Protocol Name	APTT	**STD-Link**	No
Detector	for PTT PSL		
End Point	50 %		
Maximum Time	190 sec		
Sensitivity	Low Gain		
Sample Vol	50 µL		
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
2nd Dil			
D.Samp Vol	0 µL		
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 1	30 sec		
Reag. Vol	PTT PSL	50 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 2	150 sec		
Reag. Vol	CaCl2	50 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 3	0 sec		
Reag. Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0

Standard Curve Calibration

The assay is not calibrated.

Data Check

Special Menu - Settings - Data Check

- Mark Limits	Select Param.	APTT

Number of Replicates

Special Menu - Settings - Analysis Settings

- Set Replication	Replicates	1

Application Sheet for Fibrinogen with Multifibren* U

For additional information, limitations and interferences please refer to the Instructions for Use of the analyzer and check current Instructions for Use for reagents, controls and calibrators and tables of assigned/ analytical values.

Document ID: 3127280111
Release Date: June 2011
Valid from software version: 00-17

Distribution: ☒ outside USA ☐ global ☐ in USA only

The parameters defined in this application sheet have been developed by Siemens Healthcare Diagnostics to provide optimal product performance with the assay and instrument combination. Any modification to these parameters may affect performance of this and other assays in use on your system and the resulting assay values. It is the responsibility of the user to validate any modifications and their impact on all assay results. Results of this test should always be interpreted in conjunction with the patient's medical history, clinical presentation and other findings.
The application sheet lists all combinations of controls and calibrators for use with the reagent and instrument system; other combinations are not validated or supported by Siemens.

Materials Required

Material	Catalog #	Size	On-board position
Multifibren* U Reagent	OWZG	2/5 mL	Reagent holder position 3 [1]
Fibrinogen Calibrator Kit	OQVK	6 x 1 mL	Sample rack position 1 - 5
Control Plasma N	ORKE	1 mL	Any position on sample rack
Dade® Ci-Trol® 1	291070	1 mL	
Dade® Ci-Trol® Coagulation Control Level 1	B4244-10	1 mL	
CA CLEAN I	964-0631-3	50 mL	Rinse position 11

Additional Notes

[1] Alternatively, any other cooled reagent position can be used.
Please note: If reagents recommended for cooling are stored on a non-cooled position, a reduced on-board stability has to be anticipated.
The required controls and calibrators have to be transferred into appropriate sample cups.
CA CLEAN I has to be transferred into an appropriate vial.

Limitations
Blood plasma substitutes that contain hydroxyethyl starch (HES) may interfere with the analysis. In a study with a HES solution (130/0.4) no interference was observed up to 3 g HES per liter plasma.

On-board Stability

Material	Time [h]
Multifibren* U Reagent	24

The stability data presented here were established under controlled laboratory conditions. Due to differences in laboratory environmental conditions and reagent vial fill volumes performance may vary. Please contact your local service representative to report any issues.

Interference Studies

No interferences up to ...		
Triglycerides	mg/dL	284
Hemoglobin	mg/dL	800
Bilirubin	mg/dL	36

Application Sheet for Fibrinogen with Multifibren* U

Document ID: 3127280111
Release Date: June 2011

Performance Characteristics

The following studies were conducted using specimens collected in 3.2 % sodium citrate solution.

Method Comparison

Predicate Device	Regression Equation	r
Multifibren* U Reagent on BCT* System	y = 1.01 x - 0.28	0.973

r = Correlation Coefficient

Precision

Acceptable variability (imprecision) should be such that the total coefficient of variation (CV) of the analytical system on the same lot of control plasma is less than 10 %.

	Within Run %	Run to Run %	Total %
Control Plasma N	4.5	3.1	5.3
Pathological plasma pool	3.5	1.4	3.6

Measuring Range

The measuring range is defined by the concentration of the calibrators used.

Reference Interval

In a study with ostensibly healthy subjects the following data were obtained:

			Unit: g/L	
Comments	n	Mean	Median	5^{th} - 95^{th} Percentile
—	124	2.6	2.6	1.9 - 3.5

Reference intervals vary from laboratory to laboratory depending on technique used; therefore, each laboratory should establish its own reference interval.
For more information on establishing reference intervals see CLSI document C28-A3, “How to Define and Determine Reference Intervals in the Clinical Laboratory; Approved Guideline.”

Bibliography

Refer to the Instructions for Use of the reagent.

Manufacturer

Siemens Healthcare Diagnostics Products GmbH
Emil-von-Behring-Str. 76
35041 Marburg / Germany

USA Distributor

Siemens Healthcare Diagnostics Inc.
Newark, DE 19714 USA

CE

Application Sheet for Fibrinogen with Multifibren* U

Document ID:	3127280111
Release Date:	June 2011

Test Protocol

Special Menu - Settings - Analysis Settings **- Test Protocol**

Test Protocol Name	Fbg	**STD-Link**	No
Detector	for Fbg		
End Point	30 %		
Maximum Time	100 sec		
Sensitivity	Low Gain		
Sample Vol	100 µL		
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
2nd Dil			
D.Samp Vol	0 µL		
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 1	60 sec		
Reag. Vol	Fbg MFU	100 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 2	0 sec		
Reag. Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 3	0 sec		
Reag. Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0

Standard Curve Calibration

Important Note:
The recommendation for the Number Format in Calibration Parameter differs from the information that is given in the Instructions for Use of the analyzer. Please check your Host System for correct interpretation of transmitted results whenever the Number Format will be changed.

Calibration Parameter 1

Standard Curve **- Select Param.**

Param.	Fbg.C
Units	g/L or mg/dL
Number Format	XXX.X or XXXX
Curve Fit	Log Curve

Standard Curve **- Standard Analysis**

Select Dilution Set	M
Calibrator	Fib. Calibrator Kit

Refer to the table of analytical values for the lot specific calibrator value.

		Repl.
Calib. or Dil.Ratio 1	Calibrator 2	2
Calib. or Dil.Ratio 2	Calibrator 3	2
Calib. or Dil.Ratio 3	Calibrator 4	2
Calib. or Dil.Ratio 4	Calibrator 5	2
Calib. or Dil.Ratio 5	Calibrator 6	2
Calib. or Dil.Ratio 6	—	—

Data Check

Special Menu - Settings - Data Check

- Mark Limits
- Report Limits

Select Param.	Fbg.C		
lower (<)	1.1 g/L	or	110 mg/dL
upper (>)	8.0 g/L	or	800 mg/dL

Number of Replicates

Special Menu - Settings - Analysis Settings

- Set Replication

Replicates	1

Standard Curve (example only)

A new standard curve should be established with each change of reagent lot or with any deviation from controls or proficiency testing limits.

Fbg.C

g/L	sec
8.0	7.3
5.4	8.5
3.5	11.4
2.4	14.4
1.1	25.6

Remarks

Fibrinogen Calibrator 1 is not used in this test.

Application Sheet for Fibrinogen with Dade® Thrombin Reagent

For additional information, limitations and interferences please refer to the Instructions for Use of the analyzer and check current Instructions for Use for reagents, controls and calibrators and tables of assigned/ analytical values.

Document ID:	3127300111
Release Date:	June 2011
Valid from software version:	00-17
Distribution:	☒ outside USA
☐ global	☐ in USA only

The parameters defined in this application sheet have been developed by Siemens Healthcare Diagnostics to provide optimal product performance with the assay and instrument combination. Any modification to these parameters may affect performance of this and other assays in use on your system and the resulting assay values. It is the responsibility of the user to validate any modifications and their impact on all assay results. Results of this test should always be interpreted in conjunction with the patient's medical history, clinical presentation and other findings.
The application sheet lists all combinations of controls and calibrators for use with the reagent and instrument system; other combinations are not validated or supported by Siemens.

Materials Required

Material	Catalog #	Size	On-board position
Dade® Fibrinogen Determination Reagents	B4233-15SY	Kit	—
THROMBIN REAGENT	—	1 mL	Reagent holder position 3 [1]
FIBRINOGEN STANDARD	—	1 mL	Sample rack position 1
OVB BUFFER	—	15 mL	Buffer position 12
Dade® Thrombin Reagent	B4233-25/-27	1/5 mL	Reagent holder position 3 [1]
Standard Human Plasma (SHP)	ORKL	1 mL	Sample rack position 1
Dade® Ci-Trol® 1	291070	1 mL	Any position on sample rack
Dade® Ci-Trol® Coagulation Control Level 1	B4244-10	1 mL	
Control Plasma P	OUPZ	1 mL	
Dade® Data-Fi® Abnormal Fibrinogen Control	B4233-22	1 mL	
Dade® CA System Buffer (OVB)	B4265	500 mL	Buffer position 12
Dade® Owren´s Veronal Buffer (OVB)	B4234	15 mL	
CA CLEAN I	964-0631-3	50 mL	Rinse position 11
BC Vial Kit	OVKE	5 mL	—

Additional Notes

[1] Alternatively, any other cooled reagent position can be used.
Please note: If reagents recommended for cooling are stored on a non-cooled position, a reduced on-board stability has to be anticipated.
If reagents, rinse solutions or buffers are not supplied in exactly fitting vials it is necessary to transfer them into appropiate vials.
The required controls and calibrators have to be transferred into appropriate sample cups.

Limitations
If samples are measured in 1:5 dilution, any presence of elevated triglycerides or any other turbidity in the sample may interfere the analysis.

On-board Stability

Material	Time [h]
Dade® Thrombin Reagent	24
Dade® CA System Buffer (in GW5 or SLD vials)	8

The stability data presented here were established under controlled laboratory conditions. Due to differences in laboratory environmental conditions and reagent vial fill volumes performance may vary. Please contact your local service representative to report any issues.

Interference Studies

No interferences up to ...		
Triglycerides	mg/dL	341
Hemoglobin	mg/dL	1000
Bilirubin	mg/dL	48

Application Sheet for Fibrinogen with Dade® Thrombin Reagent

Document ID: 3127300111
Release Date: June 2011

Performance Characteristics

The following studies were conducted using specimens collected in 3.2 % sodium citrate solution.

Method Comparison

Predicate Device	Regression Equation	r
Dade® Thrombin Reagent on Sysmex® CA-1500 System	y = 1.05 x + 0.04	0.974

r = Correlation Coefficient

Precision

Acceptable variability (imprecision) should be such that the total coefficient of variation (CV) of the analytical system on the same lot of control plasma is less than 10 %.

	Within Run %	Run to Run %	Total %
Dade® Ci-Trol® 1	1.9	4.1	4.6
Dade® Data-Fi® Abnormal Fibrinogen Control	3.8	3.0	4.8

Measuring Range

The measuring range is defined by the concentration of the calibrators used.

Reference Interval

In a study with ostensibly healthy subjects the following data were obtained:

			Unit: g/L	
Comments	n	Mean	Median	5th - 95th Percentile
—	123	2.73	2.70	2.10 - 3.58

Reference intervals vary from laboratory to laboratory depending on technique used; therefore, each laboratory should establish its own reference interval.
For more information on establishing reference intervals see CLSI document C28-A3, “How to Define and Determine Reference Intervals in the Clinical Laboratory; Approved Guideline.”

Bibliography

Refer to the Instructions for Use of the reagent.

Manufacturer

Siemens Healthcare Diagnostics Products GmbH
Emil-von-Behring-Str. 76
35041 Marburg / Germany

USA Distributor

Siemens Healthcare Diagnostics Inc.
Newark, DE 19714 USA

CE

Application Sheet for Fibrinogen with Dade® Thrombin Reagent

Document ID: 3127300111
Release Date: June 2011

Test Protocol

Special Menu - Settings - Analysis Settings **- Test Protocol**

Test Protocol Name	Fbg	**STD-Link**	Master
Detector	for Fbg		
End Point	50 %		
Maximum Time	100 sec		
Sensitivity	High Gain		
Sample Vol	10 µL		
Dil.Vol	OVB 90 µL		
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
2nd Dil			
D.Samp Vol	0 µL		
Dil.Vol	******* 0 µL		
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 1	60 sec		
Reag. Vol	Fbg 50 µL		
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 2	0 sec		
Reag. Vol	******* 0 µL		
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 3	0 sec		
Reag. Vol	******* 0 µL		
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0

Standard Curve Calibration

Important Note:
The recommendation for the Number Format in Calibration Parameter differs from the information that is given in the Instructions for Use of the analyzer. Please check your Host System for correct interpretation of transmitted results whenever the Number Format will be changed.

Calibration Parameter 1

Standard Curve **- Select Param.**

Param.	Fbg.C
Units	g/L or mg/dL
Number Format	XX.XX or XXXX
Curve Fit	Log Curve

Standard Curve **- Standard Analysis**

Select Dilution Set	9
Calibrator	SHP

Refer to the table of analytical values for the lot specific calibrator value.

		Repl.
Calib. or Dil.Ratio 1	2/1	2
Calib. or Dil.Ratio 2	3/2	2
Calib. or Dil.Ratio 3	1/1	2
Calib. or Dil.Ratio 4	1/2	2
Calib. or Dil.Ratio 5	1/3	2
Calib. or Dil.Ratio 6	0/1	0

Data Check

All samples exceeding the mentioned report limits should be repeated using the appropriate +Fbg or -Fbg setting again. The redilution has to be requested manually.

Special Menu - Settings - Data Check

	Select Param.	Fbg.C		
- Mark Limits				
- Report Limits	lower (<)	0.90 g/L	or	90 mg/dL
	upper (>)	5.00 g/L	or	500 mg/dL

Number of Replicates

Special Menu - Settings - Analysis Settings

- Set Replication	Replicates	1

Standard Curve (example only)

A new standard curve should be established with each change of reagent lot or with any deviation from controls or proficiency testing limits.

Fbg.C

g/L	sec
5.20	5.5
3.90	6.7
2.60	9.6
1.30	19.2
0.87	34.1

Application Sheet for Fibrinogen with Dade® Thrombin Reagent

Document ID:	3127300111
Release Date:	June 2011

Test Protocol

Special Menu - Settings - Analysis Settings **- Test Protocol**

Test Protocol Name	+Fbg	**STD-Link**	Fbg
Detector	for Fbg		
End Point	50 %		
Maximum Time	100 sec		
Sensitivity	High Gain		
Sample Vol	5 µL		
Dil.Vol	OVB 95 µL		
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
2nd Dil			
D.Samp Vol	0 µL		
Dil.Vol	******* 0 µL		
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 1	60 sec		
Reag. Vol	Fbg 50 µL		
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 2	0 sec		
Reag. Vol	******* 0 µL		
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 3	0 sec		
Reag. Vol	******* 0 µL		
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0

Standard Curve Calibration

Not applicable - Standard curve created with “Fbg” will be used automatically. For more information refer to the Instructions for Use of the Analyzer.

Data Check

Special Menu - Settings - Data Check

- Mark Limits
- Report Limits

Select Param.	+Fbg			
lower (<)	1.80 g/L	or	180 mg/dL	
upper (>)	10.00 g/L	or	1000 mg/dL	

Number of Replicates

Special Menu - Settings - Analysis Settings

- Set Replication

Replicates	1

Application Sheet for Fibrinogen with Dade® Thrombin Reagent

Document ID:	3127300111
Release Date:	June 2011

Test Protocol

Special Menu - Settings - Analysis Settings **- Test Protocol**

Test Protocol Name	-Fbg	**STD-Link**	Fbg
Detector	for Fbg		
End Point	50 %		
Maximum Time	100 sec		
Sensitivity	High Gain		
Sample Vol	20 µL		
Dil.Vol	OVB 80 µL		
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
2nd Dil			
D.Samp Vol	0 µL		
Dil.Vol	******* 0 µL		
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 1	60 sec		
Reag. Vol	Fbg 50 µL		
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 2	0 sec		
Reag. Vol	******* 0 µL		
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 3	0 sec		
Reag. Vol	******* 0 µL		
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0

Standard Curve Calibration

Not applicable - Standard curve created with “Fbg” will be used automatically. For more information refer to the Instructions for Use of the Analyzer.

Data Check

Special Menu - Settings - Data Check

- Mark Limits
- Report Limits

Select Param.	-Fbg		
lower (<)	0.50 g/L	or	50 mg/dL
upper (>)	2.50 g/L	or	250 mg/dL

Number of Replicates

Special Menu - Settings - Analysis Settings

- Set Replication

Replicates	1

Application Sheet for Thrombin Time with Test Thrombin Reagent

For additional information, limitations and interferences please refer to the Instructions for Use of the analyzer and check current Instructions for Use for reagents, controls and calibrators and tables of assigned/ analytical values.

Document ID: 3120210109
Release Date: June 2011
Valid from software version: 00-17

Distribution: ☐ outside USA ☒ global ☐ in USA only

The parameters defined in this application sheet have been developed by Siemens Healthcare Diagnostics to provide optimal product performance with the assay and instrument combination. Any modification to these parameters may affect performance of this and other assays in use on your system and the resulting assay values. It is the responsibility of the user to validate any modifications and their impact on all assay results. Results of this test should always be interpreted in conjunction with the patient's medical history, clinical presentation and other findings.
The application sheet lists all combinations of controls and calibrators for use with the reagent and instrument system; other combinations are not validated or supported by Siemens.

Materials Required

Material	Catalog #	Size	On-board position
Test Thrombin Reagent	OWHM	Kit	—
TEST THROMBIN REAGENT	—	5 mL	Reagent holder position 2 [1]
REAGENT DILUENT	—	50 mL	—
Control Plasma N	ORKE	1 mL	Any position on sample rack
CA CLEAN I	964-0631-3	50 mL	Rinse position 11
BC Vial Kit	OVKE	5 mL	—

Additional Notes

[1] Alternatively, any other cooled reagent position can be used.
Please note: If reagents recommended for cooling are stored on a non-cooled position, a reduced on-board stability has to be anticipated.
If reagents, rinse solutions or buffers are not supplied in exactly fitting vials it is necessary to transfer them into appropiate vials.
The required controls have to be transferred into appropriate sample cups.

Limitations
If the Thrombin Time is longer than the reference range of ostensibly healthy subjects, determine fibrinogen concentration. Report Thrombin Time if fibrinogen concentration is below or equal to 7 g/L. Do not report Thrombin Time if fibrinogen concentration is higher than 7 g/L.

On-board Stability

Material	Time [h]
TEST THROMBIN REAGENT	24

The stability data presented here were established under controlled laboratory conditions. Due to differences in laboratory environmental conditions and reagent vial fill volumes performance may vary. Please contact your local service representative to report any issues.

Interference Studies

No interferences up to ...		
Triglycerides	mg/dL	341
Hemoglobin	mg/dL	20
Bilirubin	mg/dL	24

Application Sheet for Thrombin Time with Test Thrombin Reagent

Document ID:	3120210109
Release Date:	June 2011

Performance Characteristics

The following studies were conducted using specimens collected in 3.2 % sodium citrate solution.

Method Comparison

Predicate Device	Regression Equation	r
Test Thrombin Reagent on BFA* System	y = 0.56 x + 5.69	0.946

r = Correlation Coefficient

Precision

Acceptable variability (imprecision) should be such that the total coefficient of variation (CV) of the analytical system on the same lot of control plasma is less than 10 %.

	Within Run %	Run to Run %	Total %
Control Plasma N	6.2	3.9	7.0

Measuring Range

Refer to the Instructions for Use of the analyzer for additional information.

Reference Interval

In a study with ostensibly healthy subjects the following data were obtained:

				Unit: sec
Comments	n	Mean	Median	2.5th - 97.5th Percentile
—	180	17.8	17.9	16.1 - 19.5

Reference intervals vary from laboratory to laboratory depending on the population served and the technique and reagent lot used. Therefore, each laboratory must establish its own reference intervals or verify them whenever one or more of the aforementioned variables are changed.

For more information on establishing reference intervals see CLSI document C28-A3, “How to Define and Determine Reference Intervals in the Clinical Laboratory; Approved Guideline.”

Bibliography

Refer to the Instructions for Use of the reagent.

Manufacturer

Siemens Healthcare Diagnostics Products GmbH
Emil-von-Behring-Str. 76
35041 Marburg / Germany

USA Distributor

Siemens Healthcare Diagnostics Inc.
Newark, DE 19714 USA

CE

Application Sheet for Thrombin Time with Test Thrombin Reagent

Document ID:	3120210109
Release Date:	June 2011

Test Protocol

Special Menu - Settings - Analysis Settings **- Test Protocol**

Test Protocol Name	TT	**STD-Link**	No
Detector	for TT		
End Point	50 %		
Maximum Time	100 sec		
Sensitivity	Low Gain		
Sample Vol	50 µL		
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
2nd Dil			
D.Samp Vol	0 µL		
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 1	60 sec		
Reag. Vol	TestThr	100 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 2	0 sec		
Reag. Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 3	0 sec		
Reag. Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0

Standard Curve Calibration

The assay is not calibrated.

Data Check

Special Menu - Settings - Data Check

- Mark Limits	Select Param.	TT

Number of Replicates

Special Menu - Settings - Analysis Settings

- Set Replication	Replicates	1

Application Sheet for Thrombin Time with Thromboclotin*

For additional information, limitations and interferences please refer to the Instructions for Use of the analyzer and check current Instructions for Use for reagents, controls and calibrators and tables of assigned/ analytical values.

Document ID: 3120220108
Release Date: June 2011
Valid from software version: 00-17

Distribution: ☒ outside USA ☐ global ☐ in USA only

The parameters defined in this application sheet have been developed by Siemens Healthcare Diagnostics to provide optimal product performance with the assay and instrument combination. Any modification to these parameters may affect performance of this and other assays in use on your system and the resulting assay values. It is the responsibility of the user to validate any modifications and their impact on all assay results. Results of this test should always be interpreted in conjunction with the patient's medical history, clinical presentation and other findings.
The application sheet lists all combinations of controls and calibrators for use with the reagent and instrument system; other combinations are not validated or supported by Siemens.

Materials Required

Material	Catalog #	Size	On-board position
Thromboclotin* Reagent	281007	10 mL	Reagent holder position 2 [1]
Dade® Ci-Trol® 1	291070	1 mL	Any position on sample rack
Control Plasma N	ORKE	1 mL	
CA CLEAN I	964-0631-3	50 mL	Rinse position 11
BC Vial Kit	OVKE	5 mL	—

Additional Notes

[1] Alternatively, any other cooled reagent position can be used.
Please note: If reagents recommended for cooling are stored on a non-cooled position, a reduced on-board stability has to be anticipated.
If reagents, rinse solutions or buffers are not supplied in exactly fitting vials it is necessary to transfer them into appropiate vials.
The required controls have to be transferred into appropriate sample cups.

Limitations
If the Thrombin Time is longer than the reference range of ostensibly healthy subjects, determine fibrinogen concentration. Report Thrombin Time if fibrinogen concentration is below or equal to 7 g/L. Do not report Thrombin Time if fibrinogen concentration is higher than 7 g/L.

On-board Stability

Material	Time [h]
Thromboclotin* Reagent	48

The stability data presented here were established under controlled laboratory conditions. Due to differences in laboratory environmental conditions and reagent vial fill volumes performance may vary. Please contact your local service representative to report any issues.

Interference Studies

No interferences up to ...		
Triglycerides	mg/dL	284
Hemoglobin	mg/dL	600
Bilirubin	mg/dL	12

Application Sheet for Thrombin Time with Thromboclotin*

Document ID:	3120220108
Release Date:	June 2011

Performance Characteristics

The following studies were conducted using specimens collected in 3.2 % sodium citrate solution.

Precision

Acceptable variability (imprecision) should be such that the total coefficient of variation (CV) of the analytical system on the same lot of control plasma is less than 10 %.

	Within Run %	Run to Run %	Total %
Control Plasma N	3.1	1.2	3.1
Pathological plasma pool	4.5	3.3	5.3

Measuring Range

Refer to the Instructions for Use of the analyzer for additional information.

Reference Interval

Refer to the Instructions for Use of the reagent.

Reference intervals vary from laboratory to laboratory depending on the population served and the technique and reagent lot used. Therefore, each laboratory must establish its own reference intervals or verify them whenever one or more of the aforementioned variables are changed.

For more information on establishing reference intervals see CLSI document C28-A3, “How to Define and Determine Reference Intervals in the Clinical Laboratory; Approved Guideline.”

Bibliography

Refer to the Instructions for Use of the reagent.

Manufacturer

Siemens Healthcare Diagnostics Products GmbH
Emil-von-Behring-Str. 76
35041 Marburg / Germany

USA Distributor

Siemens Healthcare Diagnostics Inc.
Newark, DE 19714 USA

CE

Application Sheet for Thrombin Time with Thromboclotin*

Document ID:	3120220108
Release Date:	June 2011

Test Protocol

Special Menu - Settings - Analysis Settings **- Test Protocol**

Test Protocol Name	TT	**STD-Link**	No
Detector	for TT		
End Point	50 %		
Maximum Time	100 sec		
Sensitivity	Low Gain		
Sample Vol	100 µL		
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
2nd Dil			
D.Samp Vol	0 µL		
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 1	60 sec		
Reag. Vol	Thrombo	100 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 2	0 sec		
Reag. Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 3	0 sec		
Reag. Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0

Standard Curve Calibration

The assay is not calibrated.

Data Check

Special Menu - Settings - Data Check

- Mark Limits	Select Param.	TT

Number of Replicates

Special Menu - Settings - Analysis Settings

- Set Replication	Replicates	1

Application Sheet for Batroxobin Time with Batroxobin Reagent

For additional information, limitations and interferences please refer to the Instructions for Use of the analyzer and check current Instructions for Use for reagents, controls and calibrators and tables of assigned/ analytical values.

Document ID: 3125250108
Release Date: June 2011
Valid from software version: 00-17

Distribution: ☒ outside USA ☐ global ☐ in USA only

The parameters defined in this application sheet have been developed by Siemens Healthcare Diagnostics to provide optimal product performance with the assay and instrument combination. Any modification to these parameters may affect performance of this and other assays in use on your system and the resulting assay values. It is the responsibility of the user to validate any modifications and their impact on all assay results. Results of this test should always be interpreted in conjunction with the patient's medical history, clinical presentation and other findings.
The application sheet lists all combinations of controls and calibrators for use with the reagent and instrument system; other combinations are not validated or supported by Siemens.

Materials Required

Material	Catalog #	Size	On-board position
Batroxobin Reagent	OUOV	5 mL	Reagent holder position 4 [1]
Control Plasma N	ORKE	1 mL	Any position on sample rack
Dade® Ci-Trol® 1	291070	1 mL	
Dade® Ci-Trol® Coagulation Control Level 1	B4244-10	1 mL	
CA CLEAN I	964-0631-3	50 mL	Rinse position 11

Additional Notes

[1] Alternatively, any other cooled reagent position can be used.
Please note: If reagents recommended for cooling are stored on a non-cooled position, a reduced on-board stability has to be anticipated.
The required controls have to be transferred into appropriate sample cups.
CA CLEAN I has to be transferred into an appropriate vial.

On-board Stability

Material	Time [h]
Batroxobin Reagent	48

The stability data presented here were established under controlled laboratory conditions. Due to differences in laboratory environmental conditions and reagent vial fill volumes performance may vary. Please contact your local service representative to report any issues.

Interference Studies

No interferences up to ...		
Triglycerides	mg/dL	600
Hemoglobin	mg/dL	1000
Bilirubin	mg/dL	12

Application Sheet for Batroxobin Time with Batroxobin Reagent

Document ID: 3125250108
Release Date: June 2011

Performance Characteristics

The following studies were conducted using specimens collected in 3.2 % sodium citrate solution.

Method Comparison

Predicate Device	Regression Equation	r
Batroxobin Reagent on BCT* System	y = 0.77 x + 5.66	0.984

r = Correlation Coefficient

Precision

Acceptable variability (imprecision) should be such that the total coefficient of variation (CV) of the analytical system on the same lot of control plasma is less than 10 %.

	Within Run %	Run to Run %	Total %
Control Plasma N	1.0	1.2	1.5
Pathological plasma pool	1.9	0.7	1.9

Measuring Range

Refer to the Instructions for Use of the analyzer for additional information.

Reference Interval

In a study with ostensibly healthy subjects the following data were obtained:

			Unit: sec	
Comments	n	Mean	Median	5^{th} - 95^{th} Percentile
—	66	17.6	17.6	16.7 - 18.9

Reference intervals vary from laboratory to laboratory depending on the population served and the technique and reagent lot used. Therefore, each laboratory must establish its own reference intervals or verify them whenever one or more of the aforementioned variables are changed.

For more information on establishing reference intervals see CLSI document C28-A3, “How to Define and Determine Reference Intervals in the Clinical Laboratory; Approved Guideline.”

Bibliography

Refer to the Instructions for Use of the reagent.

Manufacturer

Siemens Healthcare Diagnostics Products GmbH
Emil-von-Behring-Str. 76
35041 Marburg / Germany

USA Distributor

Siemens Healthcare Diagnostics Inc.
Newark, DE 19714 USA

CE

Application Sheet for Batroxobin Time with Batroxobin Reagent

Document ID:	3125250108
Release Date:	June 2011

Test Protocol

Special Menu - Settings - Analysis Settings **- Test Protocol**

Test Protocol Name	BXT	**STD-Link**	No
Detector	for BXT		
End Point	50 %		
Maximum Time	100 sec		
Sensitivity	Low Gain		
Sample Vol	50 µL		
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
2nd Dil			
D.Samp Vol	0 µL		
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 1	60 sec		
Reag. Vol	Batrox	100 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 2	0 sec		
Reag. Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 3	0 sec		
Reag. Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0

Standard Curve Calibration

The assay is not calibrated.

Data Check

Special Menu - Settings - Data Check

- Mark Limits	Select Param.	BXT

Number of Replicates

Special Menu - Settings - Analysis Settings

- Set Replication	Replicates	1

Application Sheet for Coagulation Factor VII with Thromborel® S

For additional information, limitations and interferences please refer to the Instructions for Use of the analyzer and check current Instructions for Use for reagents, controls and calibrators and tables of assigned/ analytical values.

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Release Date: June 2011	
Valid from software version: 00-17	
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☐ global	☐ in USA only

The parameters defined in this application sheet have been developed by Siemens Healthcare Diagnostics to provide optimal product performance with the assay and instrument combination. Any modification to these parameters may affect performance of this and other assays in use on your system and the resulting assay values. It is the responsibility of the user to validate any modifications and their impact on all assay results. Results of this test should always be interpreted in conjunction with the patient's medical history, clinical presentation and other findings.
The application sheet lists all combinations of controls and calibrators for use with the reagent and instrument system; other combinations are not validated or supported by Siemens.

Materials Required

Material	Catalog #	Size	On-board position
Thromborel® S Reagent	OUHP	4/10 mL	Reagent holder position 1 [1]
Coagulation Factor VII Deficient Plasma	OTXV	1 mL	Reagent holder position 6 [2]
Standard Human Plasma (SHP)	ORKL	1 mL	Sample rack position 1
Control Plasma N	ORKE	1 mL	Any position on sample rack
Control Plasma P	OUPZ	1 mL	
Dade® CA System Buffer (OVB)	B4265	500 mL	Buffer position 12
Dade® Owren´s Veronal Buffer (OVB)	B4234	15 mL	
CA CLEAN I	964-0631-3	50 mL	Rinse position 11
BC Vial Kit	OVKE	5 mL	—

Additional Notes

[1] Alternatively, any other cooled reagent position can be used.
Please note: If reagents recommended for cooling are stored on a non-cooled position, a reduced on-board stability has to be anticipated.
[2] Alternatively, any other non-cooled reagent position (positions 5 to 10) can be used.
If reagents, rinse solutions or buffers are not supplied in exactly fitting vials it is necessary to transfer them into appropiate vials.
The required controls and calibrators have to be transferred into appropriate sample cups.

On-board Stability

Material	Time [h]
Thromborel® S Reagent	24
FVII Deficient Plasma	6

The stability data presented here were established under controlled laboratory conditions. Due to differences in laboratory environmental conditions and reagent vial fill volumes performance may vary. Please contact your local service representative to report any issues.

Interference Studies

No interferences up to ...		
Triglycerides	mg/dL	582
Hemoglobin	mg/dL	1000
Bilirubin	mg/dL	36

Application Sheet for Coagulation Factor VII with Thromborel® S

Document ID:	3137010108
Release Date:	June 2011

Performance Characteristics

The following studies were conducted using specimens collected in 3.2 % sodium citrate solution.

Method Comparison

Predicate Device	Regression Equation	r
Thromborel® S Reagent on BCT* System	y = 1.04 x + 3.44	0.979

r = Correlation Coefficient

Precision

Acceptable variability (imprecision) should be such that the total coefficient of variation (CV) of the analytical system on the same lot of control plasma is less than 15 %.

	Within Run %	Run to Run %	Total %
Control Plasma N	7.4	4.4	8.2
Control Plasma P	4.1	7.7	8.6

Measuring Range

The measuring range is defined by the concentration of the calibrators used.

Reference Interval

Refer to the Coagulation Factors II, VII and X Deficient Plasma Instructions for Use.
Reference intervals vary from laboratory to laboratory depending on e.g. the technique used; therefore, each laboratory should establish its own reference interval.
For more information on establishing reference intervals see CLSI document C28-A3, “How to Define and Determine Reference Intervals in the Clinical Laboratory; Approved Guideline.”

Bibliography

Refer to the Instructions for Use of the reagent.

Manufacturer

Siemens Healthcare Diagnostics Products GmbH
Emil-von-Behring-Str. 76
35041 Marburg / Germany

USA Distributor

Siemens Healthcare Diagnostics Inc.
Newark, DE 19714 USA

CE

Application Sheet for Coagulation Factor VII with Thromborel® S

Document ID:	3137010108
Release Date:	June 2011

Test Protocol

Special Menu - Settings - Analysis Settings **- Test Protocol**

Test Protocol Name	VII	**STD-Link**	No
Detector	for F-Ext		
End Point	50 %		
Maximum Time	100 sec		
Sensitivity	Low Gain		
Sample Vol	5 µL		
Dil.Vol	OVB	45 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
2nd Dil			
D.Samp Vol	0 µL		
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 1	30 sec		
Reag. Vol	VII	50 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 2	90 sec		
Reag. Vol	PT THS	100 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 3	0 sec		
Reag. Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0

Standard Curve Calibration

Calibration Parameter 1

Standard Curve **- Select Param.**

Param.	VII%
Units	%
Number Format	XXX.X
Curve Fit	Log Curve

Standard Curve **- Standard Analysis**

Select Dilution Set	8
Calibrator	SHP

Refer to the table of analytical values for the lot specific calibrator value.

		Repl.
Calib. or Dil.Ratio 1	3/2	2
Calib. or Dil.Ratio 2	1/1	2
Calib. or Dil.Ratio 3	1/2	2
Calib. or Dil.Ratio 4	1/4	2
Calib. or Dil.Ratio 5	1/8	2
Calib. or Dil.Ratio 6	0/1	0

Data Check

Special Menu - Settings - Data Check

- Mark Limits | Select Param. | VII%

Number of Replicates

Special Menu - Settings - Analysis Settings

- Set Replication | Replicates | 1

Standard Curve (example only)

A new standard curve should be established with each change of reagent lot or with any deviation from controls or proficiency testing limits.

VII%

%	sec
139.5	20.8
93.0	24.2
46.5	30.4
23.2	39.3
11.6	51.6

Application Sheet for Coagulation Factor VII with Dade® Innovin®

For additional information, limitations and interferences please refer to the Instructions for Use of the analyzer and check current Instructions for Use for reagents, controls and calibrators and tables of assigned/ analytical values.

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Valid from software version: 00-17

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The application sheet lists all combinations of controls and calibrators for use with the reagent and instrument system; other combinations are not validated or supported by Siemens.

Materials Required

Material	Catalog #	Size	On-board position
Dade® Innovin® Reagent	B4212	4/10/20 mL	Reagent holder position 1 [1]
Coagulation Factor VII Deficient Plasma	OTXV	1 mL	Reagent holder position 6 [2]
Standard Human Plasma (SHP)	ORKL	1 mL	Sample rack position 1
Control Plasma N	ORKE	1 mL	Any position on sample rack
Control Plasma P	OUPZ	1 mL	
Dade® CA System Buffer (OVB)	B4265	500 mL	Buffer position 12
Dade® Owren´s Veronal Buffer (OVB)	B4234	15 mL	
CA CLEAN I	964-0631-3	50 mL	Rinse position 11
BC Vial Kit	OVKE	5 mL	—

Additional Notes

[1] Alternatively, any other cooled reagent position can be used.
Please note: If reagents recommended for cooling are stored on a non-cooled position, a reduced on-board stability has to be anticipated.
[2] Alternatively, any other non-cooled reagent position (positions 5 to 10) can be used.
If reagents, rinse solutions or buffers are not supplied in exactly fitting vials it is necessary to transfer them into appropiate vials.
The required controls and calibrators have to be transferred into appropriate sample cups.

On-board Stability

Material	Time [h]
Dade® Innovin® Reagent	24
FVII Deficient Plasma	8

The stability data presented here were established under controlled laboratory conditions. Due to differences in laboratory environmental conditions and reagent vial fill volumes performance may vary. Please contact your local service representative to report any issues.

Interference Studies

No interferences up to ...		
Triglycerides	mg/dL	3000
Hemoglobin	mg/dL	1000
Bilirubin	mg/dL	36

Application Sheet for Coagulation Factor VII with Dade® Innovin®

Document ID:	3137040109
Release Date:	June 2011

Performance Characteristics

The following studies were conducted using specimens collected in 3.2 % sodium citrate solution.

Method Comparison

Predicate Device	Regression Equation	r
Thromborel® S Reagent on BCT* System	y = 0.97 x - 1.55	0.976

r = Correlation Coefficient

Precision

Acceptable variability (imprecision) should be such that the total coefficient of variation (CV) of the analytical system on the same lot of control plasma is less than 15 %.

	Within Run %	Run to Run %	Total %
Control Plasma N	5.0	1.3	4.9
Control Plasma P	3.9	1.8	4.1

Measuring Range

The measuring range is defined by the concentration of the calibrators used.

Reference Interval

Refer to the Coagulation Factors II, VII and X Deficient Plasma Instructions for Use.
Reference intervals vary from laboratory to laboratory depending on e.g. the technique used; therefore, each laboratory should establish its own reference interval.
For more information on establishing reference intervals see CLSI document C28-A3, “How to Define and Determine Reference Intervals in the Clinical Laboratory; Approved Guideline.”

Bibliography

Refer to the Instructions for Use of the reagent.

Manufacturer

Siemens Healthcare Diagnostics Products GmbH
Emil-von-Behring-Str. 76
35041 Marburg / Germany

USA Distributor

Siemens Healthcare Diagnostics Inc.
Newark, DE 19714 USA

CE

Application Sheet for Coagulation Factor VII with Dade® Innovin®

Document ID:	3137040109
Release Date:	June 2011

Test Protocol

Special Menu - Settings - Analysis Settings **- Test Protocol**

Test Protocol Name	VII	**STD-Link**	No
Detector	for F-Ext		
End Point	50 %		
Maximum Time	100 sec		
Sensitivity	Low Gain		
Sample Vol	5 µL		
Dil.Vol	OVB	45 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
2nd Dil			
D.Samp Vol	0 µL		
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 1	30 sec		
Reag. Vol	VII	50 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 2	90 sec		
Reag. Vol	PT INN	100 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 3	0 sec		
Reag. Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0

Standard Curve Calibration

Calibration Parameter 1

Standard Curve **- Select Param.**

Param.	VII%
Units	%
Number Format	XXX.X
Curve Fit	Log Curve

Standard Curve **- Standard Analysis**

Select Dilution Set	8
Calibrator	SHP

Refer to the table of analytical values for the lot specific calibrator value.

		Repl.
Calib. or Dil.Ratio 1	3/2	2
Calib. or Dil.Ratio 2	1/1	2
Calib. or Dil.Ratio 3	1/2	2
Calib. or Dil.Ratio 4	1/4	2
Calib. or Dil.Ratio 5	1/8	2
Calib. or Dil.Ratio 6	0/1	0

Data Check

Special Menu - Settings - Data Check

- Mark Limits | Select Param. | VII%

Number of Replicates

Special Menu - Settings - Analysis Settings

- Set Replication | Replicates | 1

Standard Curve (example only)

A new standard curve should be established with each change of reagent lot or with any deviation from controls or proficiency testing limits.

VII%

%	sec
139.5	17.0
93.0	20.1
46.5	26.7
23.3	36.9
11.6	54.4

Application Sheet for Coagulation Factor VIII with Dade® Actin® Activated Cephaloplastin Reagent

For additional information, limitations and interferences please refer to the Instructions for Use of the analyzer and check current Instructions for Use for reagents, controls and calibrators and tables of assigned/ analytical values.

Document ID: 3139120109
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Valid from software version: 00-17

Distribution: ☒ outside USA ☐ global ☐ in USA only

The parameters defined in this application sheet have been developed by Siemens Healthcare Diagnostics to provide optimal product performance with the assay and instrument combination. Any modification to these parameters may affect performance of this and other assays in use on your system and the resulting assay values. It is the responsibility of the user to validate any modifications and their impact on all assay results. Results of this test should always be interpreted in conjunction with the patient's medical history, clinical presentation and other findings.
The application sheet lists all combinations of controls and calibrators for use with the reagent and instrument system; other combinations are not validated or supported by Siemens.

Materials Required

Material	Catalog #	Size	On-board position
Dade® Actin® Activated Cephaloplastin Reagent	B4218-1/-2	2/10 mL	Reagent holder position 2 [1]
Calcium Chloride Solution	ORHO	15 mL	Reagent holder position 7 [2]
Coagulation Factor VIII Deficient Plasma	OTXW	1 mL	Reagent holder position 8 [2]
Standard Human Plasma (SHP)	ORKL	1 mL	Sample rack position 1
Control Plasma N	ORKE	1 mL	Any position on sample rack
Control Plasma P	OUPZ	1 mL	
Dade® CA System Buffer (OVB)	B4265	500 mL	Buffer position 12
Dade® Owren´s Veronal Buffer (OVB)	B4234	15 mL	
CA CLEAN I	964-0631-3	50 mL	Rinse position 11
BC Vial Kit	OVKE	5 / 15 mL	—

Additional Notes

[1] Alternatively, any other cooled reagent position can be used.
Please note: If reagents recommended for cooling are stored on a non-cooled position, a reduced on-board stability has to be anticipated.
[2] Alternatively, any other non-cooled reagent position (positions 5 to 10) can be used.
If reagents, rinse solutions or buffers are not supplied in exactly fitting vials it is necessary to transfer them into appropiate vials.
The required controls and calibrators have to be transferred into appropriate sample cups.

On-board Stability

Material	Time [h]
Dade® Actin® Reagent	48
Calcium Chloride Solution	48
FVIII Deficient Plasma	4

The stability data presented here were established under controlled laboratory conditions. Due to differences in laboratory environmental conditions and reagent vial fill volumes performance may vary. Please contact your local service representative to report any issues.

Interference Studies

No interferences up to ...		
Triglycerides	mg/dL	453
Hemoglobin	mg/dL	200
Bilirubin	mg/dL	48

Application Sheet for Coagulation Factor VIII with Dade® Actin® Activated Cephaloplastin Reagent

Document ID: 3139120109
Release Date: June 2011

Performance Characteristics

The following studies were conducted using specimens collected in 3.2 % sodium citrate solution.

Method Comparison

Predicate Device	Regression Equation	r
Pathromtin* SL Reagent on BCT* System	y = 1.05 x + 2.24	0.965

r = Correlation Coefficient

Precision

Acceptable variability (imprecision) should be such that the total coefficient of variation (CV) of the analytical system on the same lot of control plasma is less than 15 %.

	Within Run %	Run to Run %	Total %
Control Plasma N	3.1	5.3	6.1
Control Plasma P	4.6	6.2	7.6

Measuring Range

The measuring range is defined by the concentration of the calibrators used.

Reference Interval

Refer to the Coagulation Factors VIII, IX, XI and XII Deficient Plasma Instructions for Use.
Reference intervals vary from laboratory to laboratory depending on e.g. the technique used; therefore, each laboratory should establish its own reference interval.
For more information on establishing reference intervals see CLSI document C28-A3, “How to Define and Determine Reference Intervals in the Clinical Laboratory; Approved Guideline.”

Bibliography

Refer to the Instructions for Use of the reagent.

Manufacturer

Siemens Healthcare Diagnostics Products GmbH
Emil-von-Behring-Str. 76
35041 Marburg / Germany

USA Distributor

Siemens Healthcare Diagnostics Inc.
Newark, DE 19714 USA

CE

Application Sheet for Coagulation Factor VIII with Dade® Actin® Activated Cephaloplastin Reagent

Document ID:	3139120109
Release Date:	June 2011

Test Protocol

Special Menu - Settings - Analysis Settings **- Test Protocol**

Test Protocol Name	VIII	**STD-Link**	No
Detector	for F-Int		
End Point	50 %		
Maximum Time	150 sec		
Sensitivity	Low Gain		
Sample Vol	5 µL		
Dil.Vol	OVB	45 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
2nd Dil			
D.Samp Vol	0 µL		
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 1	30 sec		
Reag. Vol	VIII	50 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 2	60 sec		
Reag. Vol	PTT ACT	50 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 3	240 sec		
Reag. Vol	CaCl2	50 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1

Standard Curve Calibration

For higher concentrations (approx. 150 - 12.5 %) select Dilution Set 8.
Calibration Parameter 1
Standard Curve **- Select Param.**

Param.	VIII%
Units	%
Number Format	XXX.X
Curve Fit	Log Curve

Standard Curve **- Standard Analysis**

Select Dilution Set	8
Calibrator	SHP

Refer to the table of analytical values for the lot specific calibrator value.

		Repl.
Calib. or Dil.Ratio 1	3/2	2
Calib. or Dil.Ratio 2	1/1	2
Calib. or Dil.Ratio 3	1/2	2
Calib. or Dil.Ratio 4	1/4	2
Calib. or Dil.Ratio 5	1/8	2
Calib. or Dil.Ratio 6	0/1	0

Data Check

Special Menu - Settings - Data Check

- Mark Limits	Select Param.	VIII%

Number of Replicates

Special Menu - Settings - Analysis Settings

- Set Replication	Replicates	1

Standard Curve (example only)

A new standard curve should be established with each change of reagent lot or with any deviation from controls or proficiency testing limits.

VIII%

%	sec
129.0	55.5
86.0	60.1
43.0	68.5
21.5	79.0
10.7	88.4

Application Sheet for Coagulation Factor VIII with Dade® Actin® Activated Cephaloplastin Reagent

Document ID:	3139120109
Release Date:	June 2011

Test Protocol

Special Menu - Settings - Analysis Settings **- Test Protocol**

Test Protocol Name	VIII	**STD-Link**	No
Detector	for F-Int		
End Point	50 %		
Maximum Time	150 sec		
Sensitivity	Low Gain		
Sample Vol	5 µL		
Dil.Vol	OVB	45 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
2nd Dil			
D.Samp Vol	0 µL		
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 1	30 sec		
Reag. Vol	VIII	50 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 2	60 sec		
Reag. Vol	PTT ACT	50 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 3	240 sec		
Reag. Vol	CaCl2	50 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1

Standard Curve Calibration

For lower concentrations (approx. 100 - 3.1 %) select Dilution Set 1.
Calibration Parameter 1
Standard Curve **- Select Param.**

Param.	VIII%
Units	%
Number Format	XXX.X
Curve Fit	Log Curve

Standard Curve **- Standard Analysis**

Select Dilution Set	1
Calibrator	SHP

Refer to the table of analytical values for the lot specific calibrator value.

		Repl.
Calib. or Dil.Ratio 1	1/1	2
Calib. or Dil.Ratio 2	1/2	2
Calib. or Dil.Ratio 3	1/4	2
Calib. or Dil.Ratio 4	1/8	2
Calib. or Dil.Ratio 5	1/16	2
Calib. or Dil.Ratio 6	1/32	2

Data Check

Special Menu - Settings - Data Check

- Mark Limits	Select Param.	VIII%

Number of Replicates

Special Menu - Settings - Analysis Settings

- Set Replication	Replicates	1

Standard Curve (example only)

A new standard curve should be established with each change of reagent lot or with any deviation from controls or proficiency testing limits.

VIII%

%	sec
86.0	60.3
43.0	68.8
21.5	78.4
10.4	88.1
5.4	98.0
2.6	107.8

Application Sheet for Coagulation Factor VIII with Dade® Actin® FSL Activated PTT Reagent

For additional information, limitations and interferences please refer to the Instructions for Use of the analyzer and check current Instructions for Use for reagents, controls and calibrators and tables of assigned/ analytical values.

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Distribution: ☐ outside USA ☒ global ☐ in USA only

The parameters defined in this application sheet have been developed by Siemens Healthcare Diagnostics to provide optimal product performance with the assay and instrument combination. Any modification to these parameters may affect performance of this and other assays in use on your system and the resulting assay values. It is the responsibility of the user to validate any modifications and their impact on all assay results. Results of this test should always be interpreted in conjunction with the patient's medical history, clinical presentation and other findings.
The application sheet lists all combinations of controls and calibrators for use with the reagent and instrument system; other combinations are not validated or supported by Siemens.

Materials Required

Material	Catalog #	Size	On-board position
Dade® Actin® FSL Activated PTT Reagent	B4219	2/10 mL	Reagent holder position 2 [1]
Calcium Chloride Solution	ORHO	15 mL	Reagent holder position 7 [2]
Coagulation Factor VIII Deficient Plasma	OTXW	1 mL	Reagent holder position 8 [2]
Standard Human Plasma (SHP)	ORKL	1 mL	Sample rack position 1
Control Plasma N	ORKE	1 mL	Any position on sample rack
Control Plasma P	OUPZ	1 mL	
Dade® CA System Buffer (OVB)	B4265	500 mL	Buffer position 12
Dade® Owren´s Veronal Buffer (OVB)	B4234	15 mL	
CA CLEAN I	964-0631-3	50 mL	Rinse position 11
BC Vial Kit	OVKE	5 mL	—

Additional Notes

[1] Alternatively, any other cooled reagent position can be used.
Please note: If reagents recommended for cooling are stored on a non-cooled position, a reduced on-board stability has to be anticipated.
[2] Alternatively, any other non-cooled reagent position (positions 5 to 10) can be used.
If reagents, rinse solutions or buffers are not supplied in exactly fitting vials it is necessary to transfer them into appropiate vials.
The required controls and calibrators have to be transferred into appropriate sample cups.

On-board Stability

Material	Time [h]
Dade® Actin® FSL Reagent	48
Calcium Chloride Solution	48
FVIII Deficient Plasma	4

The stability data presented here were established under controlled laboratory conditions. Due to differences in laboratory environmental conditions and reagent vial fill volumes performance may vary. Please contact your local service representative to report any issues.

Interference Studies

No interferences up to ...		
Triglycerides	mg/dL	3000
Hemoglobin	mg/dL	40
Bilirubin	mg/dL	24

Application Sheet for Coagulation Factor VIII with Dade® Actin® FSL Activated PTT Reagent

Document ID:	3139140109
Release Date:	June 2011

Performance Characteristics

The following studies were conducted using specimens collected in 3.2 % sodium citrate solution.

Method Comparison

Predicate Device	Regression Equation	r
Pathromtin* SL Reagent on BCT* System	y = 1.00 x + 3.71	0.960

r = Correlation Coefficient

Precision

Acceptable variability (imprecision) should be such that the total coefficient of variation (CV) of the analytical system on the same lot of control plasma is less than 15 %.

	Within Run %	Run to Run %	Total %
Control Plasma N	2.5	3.2	4.0
Control Plasma P	3.2	4.2	5.2

Measuring Range

The measuring range is defined by the concentration of the calibrators used.

Reference Interval

Refer to the Coagulation Factors VIII, IX, XI and XII Deficient Plasma Instructions for Use.
Reference intervals vary from laboratory to laboratory depending on e.g. the technique used; therefore, each laboratory should establish its own reference interval.
For more information on establishing reference intervals see CLSI document C28-A3, “How to Define and Determine Reference Intervals in the Clinical Laboratory; Approved Guideline.”

Bibliography

Refer to the Instructions for Use of the reagent.

Manufacturer

Siemens Healthcare Diagnostics Products GmbH
Emil-von-Behring-Str. 76
35041 Marburg / Germany

USA Distributor

Siemens Healthcare Diagnostics Inc.
Newark, DE 19714 USA

CE

Application Sheet for Coagulation Factor VIII with Dade® Actin® FSL Activated PTT Reagent

Document ID:	3139140109
Release Date:	June 2011

Test Protocol

Special Menu - Settings - Analysis Settings **- Test Protocol**

Test Protocol Name	VIII	**STD-Link**	No
Detector	for F-Int		
End Point	50 %		
Maximum Time	150 sec		
Sensitivity	Low Gain		
Sample Vol	5 µL		
Dil.Vol	OVB	45 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
2nd Dil			
D.Samp Vol	0 µL		
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 1	30 sec		
Reag. Vol	VIII	50 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 2	60 sec		
Reag. Vol	PTT FSL	50 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 3	240 sec		
Reag. Vol	CaCl2	50 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1

Standard Curve Calibration

For higher concentrations (approx. 150 - 12.5 %) select Dilution Set 8.
Calibration Parameter 1
Standard Curve **- Select Param.**

Param.	VIII%
Units	%
Number Format	XXX.X
Curve Fit	Log Curve

Standard Curve **- Standard Analysis**

Select Dilution Set	8
Calibrator	SHP

Refer to the table of analytical values for the lot specific calibrator value.

		Repl.
Calib. or Dil.Ratio 1	3/2	2
Calib. or Dil.Ratio 2	1/1	2
Calib. or Dil.Ratio 3	1/2	2
Calib. or Dil.Ratio 4	1/4	2
Calib. or Dil.Ratio 5	1/8	2
Calib. or Dil.Ratio 6	0/1	0

Data Check

Special Menu - Settings - Data Check

- Mark Limits	Select Param.	VIII%

Number of Replicates

Special Menu - Settings - Analysis Settings

- Set Replication	Replicates	1

Standard Curve (example only)

A new standard curve should be established with each change of reagent lot or with any deviation from controls or proficiency testing limits.

VIII%

%	sec
129.0	66.7
86.0	72.1
43.0	82.2
21.5	92.9
10.8	104.0

Application Sheet for Coagulation Factor VIII with Dade® Actin® FSL Activated PTT Reagent

Document ID:	3139140109
Release Date:	June 2011

Test Protocol

Special Menu - Settings - Analysis Settings **- Test Protocol**

Test Protocol Name	VIII	**STD-Link**	No
Detector	for F-Int		
End Point	50 %		
Maximum Time	150 sec		
Sensitivity	Low Gain		
Sample Vol	5 µL		
Dil.Vol	OVB	45 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
2nd Dil			
D.Samp Vol	0 µL		
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 1	30 sec		
Reag. Vol	VIII	50 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 2	60 sec		
Reag. Vol	PTT FSL	50 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 3	240 sec		
Reag. Vol	CaCl2	50 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1

Standard Curve Calibration

For lower concentrations (approx. 100 - 3.1 %) select Dilution Set 1.
Calibration Parameter 1
Standard Curve **- Select Param.**

Param.	VIII%
Units	%
Number Format	XXX.X
Curve Fit	Log Curve

Standard Curve **- Standard Analysis**

Select Dilution Set	1
Calibrator	SHP

Refer to the table of analytical values for the lot specific calibrator value.

		Repl.
Calib. or Dil.Ratio 1	1/1	2
Calib. or Dil.Ratio 2	1/2	2
Calib. or Dil.Ratio 3	1/4	2
Calib. or Dil.Ratio 4	1/8	2
Calib. or Dil.Ratio 5	1/16	2
Calib. or Dil.Ratio 6	1/32	2

Data Check

Special Menu - Settings - Data Check

- Mark Limits	Select Param.	VIII%

Number of Replicates

Special Menu - Settings - Analysis Settings

- Set Replication	Replicates	1

Standard Curve (example only)

A new standard curve should be established with each change of reagent lot or with any deviation from controls or proficiency testing limits.

VIII%

%	sec
86.0	70.2
43.0	79.9
21.5	89.7
10.8	100.3
5.4	110.2
2.7	118.7

Application Sheet for Coagulation Factor VIII with Pathromtin* SL

For additional information, limitations and interferences please refer to the Instructions for Use of the analyzer and check current Instructions for Use for reagents, controls and calibrators and tables of assigned/ analytical values.

Document ID: 3139110110	
Release Date: June 2011	
Valid from software version: 00-17	
Distribution:	☒ outside USA
☐ global	☐ in USA only

The parameters defined in this application sheet have been developed by Siemens Healthcare Diagnostics to provide optimal product performance with the assay and instrument combination. Any modification to these parameters may affect performance of this and other assays in use on your system and the resulting assay values. It is the responsibility of the user to validate any modifications and their impact on all assay results. Results of this test should always be interpreted in conjunction with the patient's medical history, clinical presentation and other findings.
The application sheet lists all combinations of controls and calibrators for use with the reagent and instrument system; other combinations are not validated or supported by Siemens.

Materials Required

Material	Catalog #	Size	On-board position
Pathromtin* SL Reagent	OQGS	5 mL	Reagent holder position 2 [1]
Calcium Chloride Solution	ORHO	15 mL	Reagent holder position 7 [2]
Coagulation Factor VIII Deficient Plasma	OTXW	1 mL	Reagent holder position 8 [2]
Standard Human Plasma (SHP)	ORKL	1 mL	Sample rack position 1
Control Plasma N	ORKE	1 mL	Any position on sample rack
Control Plasma P	OUPZ	1 mL	
Dade® CA System Buffer (OVB)	B4265	500 mL	Buffer position 12
Dade® Owren´s Veronal Buffer (OVB)	B4234	15 mL	
CA CLEAN I	964-0631-3	50 mL	Rinse position 11
BC Vial Kit	OVKE	5 mL	—

Additional Notes

[1] Alternatively, any other cooled reagent position can be used.
Please note: If reagents recommended for cooling are stored on a non-cooled position, a reduced on-board stability has to be anticipated.
[2] Alternatively, any other non-cooled reagent position (positions 5 to 10) can be used.
If reagents, rinse solutions or buffers are not supplied in exactly fitting vials it is necessary to transfer them into appropiate vials.
The required controls and calibrators have to be transferred into appropriate sample cups.
Pathromtin* SL Reagent must be gently inverted (5 to 8 times) to mix before first use.

On-board Stability

Material	Time [h]
Pathromtin* SL Reagent	48
Calcium Chloride Solution	48
FVIII Deficient Plasma	4

The stability data presented here were established under controlled laboratory conditions. Due to differences in laboratory environmental conditions and reagent vial fill volumes performance may vary. Please contact your local service representative to report any issues.

Interference Studies

No interferences up to ...		
Triglycerides	mg/dL	582
Hemoglobin	mg/dL	1000
Bilirubin	mg/dL	24

Application Sheet for Coagulation Factor VIII with Pathromtin* SL

Document ID:	3139110110
Release Date:	June 2011

Performance Characteristics

The following studies were conducted using specimens collected in 3.2 % sodium citrate solution.

Method Comparison

Predicate Device	Regression Equation	r
Pathromtin* SL Reagent on BCT* System	y = 1.19 x + 0.51	0.974

r = Correlation Coefficient

Precision

Acceptable variability (imprecision) should be such that the total coefficient of variation (CV) of the analytical system on the same lot of control plasma is less than 15 %.

	Within Run %	Run to Run %	Total %
Control Plasma N	3.1	3.2	4.3
Control Plasma P	3.1	2.6	3.9

Measuring Range

The measuring range is defined by the concentration of the calibrators used.

Reference Interval

Refer to the Coagulation Factors VIII, IX, XI and XII Deficient Plasma Instructions for Use.
Reference intervals vary from laboratory to laboratory depending on e.g. the technique used; therefore, each laboratory should establish its own reference interval.
For more information on establishing reference intervals see CLSI document C28-A3, “How to Define and Determine Reference Intervals in the Clinical Laboratory; Approved Guideline.”

Bibliography

Refer to the Instructions for Use of the reagent.

Manufacturer

Siemens Healthcare Diagnostics Products GmbH
Emil-von-Behring-Str. 76
35041 Marburg / Germany

USA Distributor

Siemens Healthcare Diagnostics Inc.
Newark, DE 19714 USA

CE

Application Sheet for Coagulation Factor VIII with Pathromtin* SL

Document ID:	3139110110
Release Date:	June 2011

Test Protocol

Special Menu - Settings - Analysis Settings **- Test Protocol**

Test Protocol Name	VIII	**STD-Link**	No
Detector	for F-Int		
End Point	50 %		
Maximum Time	150 sec		
Sensitivity	Low Gain		
Sample Vol	5 µL		
Dil.Vol	OVB	45 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
2nd Dil			
D.Samp Vol	0 µL		
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 1	30 sec		
Reag. Vol	VIII	50 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 2	60 sec		
Reag. Vol	PTT PSL	50 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 3	240 sec		
Reag. Vol	CaCl2	50 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1

Standard Curve Calibration

For higher concentrations (approx. 150 - 12.5 %) select Dilution Set 8.
Calibration Parameter 1
Standard Curve **- Select Param.**

Param.	VIII%
Units	%
Number Format	XXX.X
Curve Fit	Log Curve

Standard Curve **- Standard Analysis**

Select Dilution Set	8
Calibrator	SHP

Refer to the table of analytical values for the lot specific calibrator value.

		Repl.
Calib. or Dil.Ratio 1	3/2	2
Calib. or Dil.Ratio 2	1/1	2
Calib. or Dil.Ratio 3	1/2	2
Calib. or Dil.Ratio 4	1/4	2
Calib. or Dil.Ratio 5	1/8	2
Calib. or Dil.Ratio 6	0/1	0

Data Check

Special Menu - Settings - Data Check

- Mark Limits	Select Param.	VIII%

Number of Replicates

Special Menu - Settings - Analysis Settings

- Set Replication	Replicates	1

Standard Curve (example only)

A new standard curve should be established with each change of reagent lot or with any deviation from controls or proficiency testing limits.

VIII%

%	sec
129.0	65.2
86.0	70.7
43.0	78.9
21.5	90.4
10.7	103.3

Application Sheet for Coagulation Factor VIII with Pathromtin* SL

Document ID: 3139110110
Release Date: June 2011

Test Protocol

Special Menu - Settings - Analysis Settings **- Test Protocol**

Test Protocol Name	VIII	**STD-Link**	No
Detector	for F-Int		
End Point	50 %		
Maximum Time	150 sec		
Sensitivity	Low Gain		
Sample Vol	5 µL		
Dil.Vol	OVB	45 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
2nd Dil			
D.Samp Vol	0 µL		
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 1	30 sec		
Reag. Vol	VIII	50 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 2	60 sec		
Reag. Vol	PTT PSL	50 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 3	240 sec		
Reag. Vol	CaCl2	50 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1

Standard Curve Calibration

For lower concentrations (approx. 100 - 3.1 %) select Dilution Set 1.
Calibration Parameter 1
Standard Curve **- Select Param.**

Param.	VIII%
Units	%
Number Format	XXX.X
Curve Fit	Log Curve

Standard Curve **- Standard Analysis**

Select Dilution Set	1
Calibrator	SHP

Refer to the table of analytical values for the lot specific calibrator value.

		Repl.
Calib. or Dil.Ratio 1	1/1	2
Calib. or Dil.Ratio 2	1/2	2
Calib. or Dil.Ratio 3	1/4	2
Calib. or Dil.Ratio 4	1/8	2
Calib. or Dil.Ratio 5	1/16	2
Calib. or Dil.Ratio 6	1/32	2

Data Check

Special Menu - Settings - Data Check

- Mark Limits	Select Param.	VIII%

Number of Replicates

Special Menu - Settings - Analysis Settings

- Set Replication	Replicates	1

Standard Curve (example only)

A new standard curve should be established with each change of reagent lot or with any deviation from controls or proficiency testing limits.

VIII%

%	sec
86.0	70.2
43.0	79.7
21.5	91.2
10.4	103.6
5.4	115.0
2.6	125.7

Application Sheet for Lupus Anticoagulant with LA 1 Screening Reagent / LA 2 Confirmation Reagent

For additional information, limitations and interferences please refer to the Instructions for Use of the analyzer and check current Instructions for Use for reagents, controls and calibrators and tables of assigned/ analytical values.

Document ID: 3183830108	
Release Date: June 2011	
Valid from software version: 00-17	
Distribution:	☒ outside USA
☐ global	☐ in USA only

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The application sheet lists all combinations of controls and calibrators for use with the reagent and instrument system; other combinations are not validated or supported by Siemens.

Materials Required

Material	Catalog #	Size	On-board position
LA 1 Screening Reagent	OQGP	2 mL	Reagent holder position 1 [1]
LA 2 Confirmation Reagent	OQGR	1 mL	Reagent holder position 2 [1]
Control Plasma N	ORKE	1 mL	Any position on sample rack
LA Control High	OQWD	1 mL	
LA Control Low	OQWE	1 mL	
CA CLEAN I	964-0631-3	50 mL	Rinse position 11

Additional Notes

[1] Alternatively, any other cooled reagent position can be used.
Please note: If reagents recommended for cooling are stored on a non-cooled position, a reduced on-board stability has to be anticipated. Refer to the Instructions for Use of the reagent for information regarding result evaluation.
The required controls have to be transferred into appropriate sample cups.
CA CLEAN I has to be transferred into an appropriate vial.

On-board Stability

Material	Time [h]
LA 1 Screening Reagent	24
LA 2 Confirmation Reagent	24

The stability data presented here were established under controlled laboratory conditions. Due to differences in laboratory environmental conditions and reagent vial fill volumes performance may vary. Please contact your local service representative to report any issues.

Interference Studies

No interferences up to ...		
Triglycerides	mg/dL	300
Hemoglobin	mg/dL	100
Bilirubin	mg/dL	60

Application Sheet for Lupus Anticoagulant with LA 1 Screening Reagent / LA 2 Confirmation Reagent

Document ID:	3183830108
Release Date:	June 2011

Performance Characteristics

The following studies were conducted using specimens collected in 3.2 % sodium citrate solution.

Method Comparison

Predicate Device	Regression Equation	r
LA 1 Screening Reagent on BCT* System	y = 1.26 x - 1.56	0.990
LA 1 / LA 2 Ratio on BCT* System	y = 1.06 x + 0.03	0.993

r = Correlation Coefficient

Precision

Acceptable variability (imprecision) should be such that the total coefficient of variation (CV) of the analytical system on the same lot of control plasma is less than 5 %.

	Within Run %	Run to Run %	Total %
LA 1: Control Plasma N	0.8	2.0	2.2
LA 2: Control Plasma N	0.5	0.8	1.0
LA 1 / LA 2 Ratio: Control Plasma N	0.9	1.9	2.1

Measuring Range

Refer to the Instructions for Use of the analyzer for additional information.

Reference Interval

In a study with ostensibly healthy subjects the following data were obtained:

			Unit: sec	
Comments	**n**	**Mean**	**Median**	**5^{th} - 95^{th} Percentile**
LA 1 Screening Reagent	128	41.0	40.6	35.8 - 47.8
LA 2 Confirmation Reagent	128	36.1	36.0	33.3 - 39.3
LA 1 / LA 2 Ratio (no unit)	128	1.14	1.12	1.01 - 1.26

Reference intervals vary from laboratory to laboratory depending on the population served and the technique and reagent lot used. Therefore, each laboratory must establish its own reference intervals or verify them whenever one or more of the aforementioned variables are changed.

For more information on establishing reference intervals see CLSI document C28-A3, “How to Define and Determine Reference Intervals in the Clinical Laboratory; Approved Guideline.”

Bibliography

Refer to the Instructions for Use of the reagent.

Manufacturer

Siemens Healthcare Diagnostics Products GmbH
Emil-von-Behring-Str. 76
35041 Marburg / Germany

USA Distributor

Siemens Healthcare Diagnostics Inc.
Newark, DE 19714 USA

CE

Application Sheet for Lupus Anticoagulant with LA 1 Screening Reagent / LA 2 Confirmation Reagent

Document ID:	3183830108
Release Date:	June 2011

Test Protocol

Special Menu - Settings - Analysis Settings **- Test Protocol**

Test Protocol Name	LA1	**STD-Link**	No
Detector	for LA1		
End Point	50 %		
Maximum Time	240 sec		
Sensitivity	Low Gain		
Sample Vol	100 µL		
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
2nd Dil			
D.Samp Vol	0 µL		
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 1	60 sec		
Reag. Vol	LA1	100 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 2	0 sec		
Reag. Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 3	0 sec		
Reag. Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0

Standard Curve Calibration

The assay is not calibrated.

Data Check

Special Menu - Settings - Data Check

- Mark Limits	Select Param.	LA1
- Replic. Limits	Difference (%)	10

Number of Replicates

Special Menu - Settings - Analysis Settings

- Set Replication	Replicates	2

Application Sheet for Lupus Anticoagulant with LA 1 Screening Reagent / LA 2 Confirmation Reagent

Document ID:	3183830108
Release Date:	June 2011

Test Protocol

Special Menu - Settings - Analysis Settings **- Test Protocol**

Test Protocol Name	LA2	**STD-Link**	No
Detector	for LA2		
End Point	50 %		
Maximum Time	240 sec		
Sensitivity	Low Gain		
Sample Vol	100 µL		
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
2nd Dil			
D.Samp Vol	0 µL		
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 1	60 sec		
Reag. Vol	LA2	100 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 2	0 sec		
Reag. Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 3	0 sec		
Reag. Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0

Standard Curve Calibration

The assay is not calibrated.

Data Check

Special Menu - Settings - Data Check

- Mark Limits	Select Param.	LA2
- Replic. Limits	Difference (%)	10

Number of Replicates

Special Menu - Settings - Analysis Settings

- Set Replication	Replicates	2

Application Sheet for Protein C with Protein C Reagent

For additional information, limitations and interferences please refer to the Instructions for Use of the analyzer and check current Instructions for Use for reagents, controls and calibrators and tables of assigned/ analytical values.

Document ID: 3155570111
Release Date: June 2011
Valid from software version: 00-17

Distribution: ☐ outside USA ☒ global ☐ in USA only

The parameters defined in this application sheet have been developed by Siemens Healthcare Diagnostics to provide optimal product performance with the assay and instrument combination. Any modification to these parameters may affect performance of this and other assays in use on your system and the resulting assay values. It is the responsibility of the user to validate any modifications and their impact on all assay results. Results of this test should always be interpreted in conjunction with the patient's medical history, clinical presentation and other findings.
The application sheet lists all combinations of controls and calibrators for use with the reagent and instrument system; other combinations are not validated or supported by Siemens.

Materials Required

Material	Catalog #	Size	On-board position
Protein C Reagent	OQYG	Kit	—
ACTIVATOR	—	3 mL	Reagent holder position 1 [1]
REAGENT APTT	—	10 mL	Reagent holder position 2 [1]
DEFICIENT (PC.DefP)	—	1 mL	Reagent holder position 10
Calcium Chloride Solution	ORHO	15 mL	Reagent holder position 7 [2]
Standard Human Plasma (SHP)	ORKL	1 mL	Sample rack position 1
Control Plasma N	ORKE	1 mL	Any position on sample rack
Control Plasma P	OUPZ	1 mL	
CA CLEAN I	964-0631-3	50 mL	Rinse position 11
BC Vial Kit	OVKE	5 mL	—

Additional Notes

[1] Alternatively, any other cooled reagent position can be used.
Please note: If reagents recommended for cooling are stored on a non-cooled position, a reduced on-board stability has to be anticipated.
[2] Alternatively, any other non-cooled reagent position (positions 5 to 10) can be used.
If reagents, rinse solutions or buffers are not supplied in exactly fitting vials it is necessary to transfer them into appropiate vials.
The required controls and calibrators have to be transferred into appropriate sample cups.

Limitations
Hemolyzed samples are not suitable for protein C determination.
Higher levels of lipids or turbid samples can lead to falsely elevated or decreased values.

On-board Stability

Material	Name in Test Protocol	Time [h]
ACTIVATOR	PC.A.cl	24
REAGENT APTT	PC.APTT	24
DEFICIENT	PC.DefP	6
Calcium Chloride Solution	CaCl2	24

The stability data presented here were established under controlled laboratory conditions. Due to differences in laboratory environmental conditions and reagent vial fill volumes performance may vary. Please contact your local service representative to report any issues.

Interference Studies

No interferences up to ...		
Triglycerides	mg/dL	3012
Hemoglobin	mg/dL	600
Bilirubin	mg/dL	36

Application Sheet for Protein C with Protein C Reagent

Document ID:	3155570111
Release Date:	June 2011

Performance Characteristics

The following studies were conducted using specimens collected in 3.2 % sodium citrate solution.

Method Comparison

Predicate Device	Regression Equation	r
Protein C Reagent, coagulometric on BCT* System	y = 1.01 x + 3.60	0.989

r = Correlation Coefficient

Precision

Acceptable variability (imprecision) should be such that the total coefficient of variation (CV) of the analytical system on the same lot of control plasma is less than 15 %.

	Within Run %	Run to Run %	Total %
Control Plasma N	1.9	4.3	4.7
Control Plasma P	2.5	4.5	5.1

Measuring Range

The measuring range is defined by the concentration of the calibrators used.

Reference Interval

Refer to the Instructions for Use of the reagent.
Reference intervals vary from laboratory to laboratory depending on e.g. the technique used; therefore, each laboratory should establish its own reference interval.
For more information on establishing reference intervals see CLSI document C28-A3, “How to Define and Determine Reference Intervals in the Clinical Laboratory; Approved Guideline.”

Bibliography

Refer to the Instructions for Use of the reagent.

Manufacturer

Siemens Healthcare Diagnostics Products GmbH
Emil-von-Behring-Str. 76
35041 Marburg / Germany

USA Distributor

Siemens Healthcare Diagnostics Inc.
Newark, DE 19714 USA

CE

Application Sheet for Protein C with Protein C Reagent

Document ID:	3155570111
Release Date:	June 2011

Test Protocol

Special Menu - Settings - Analysis Settings **- Test Protocol**

Test Protocol Name	PCcl	**STD-Link**	No
Detector	for PCc		
End Point	50 %		
Maximum Time	300 sec		
Sensitivity	Low Gain		
Sample Vol	5 µL		
Dil.Vol	PC.DefP	45 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
2nd Dil			
D.Samp Vol	0 µL		
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 1	30 sec		
Reag. Vol	PC.A.cl	50 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 2	60 sec		
Reag. Vol	PC.APTT	50 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 3	300 sec		
Reag. Vol	CaCl2	50 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1

Standard Curve Calibration

Calibration Parameter 1

Standard Curve **- Select Param.**

Param.	PC.cl%
Units	%
Number Format	XXX.X
Curve Fit	Lin-Lin

Standard Curve **- Standard Analysis**

Select Dilution Set	8
Calibrator	SHP

Refer to the table of analytical values for the lot specific calibrator value.

		Repl.
Calib. or Dil.Ratio 1	3/2	2
Calib. or Dil.Ratio 2	1/1	2
Calib. or Dil.Ratio 3	1/2	2
Calib. or Dil.Ratio 4	1/4	2
Calib. or Dil.Ratio 5	1/8	2
Calib. or Dil.Ratio 6	0/1	2

Data Check

Special Menu - Settings - Data Check

- Mark Limits	Select Param.	PC.cl%

Number of Replicates

Special Menu - Settings - Analysis Settings

- Set Replication	Replicates	1

Standard Curve (example only)

A new standard curve should be established with each change of reagent lot or with any deviation from controls or proficiency testing limits.

PC.cl%

%	sec
148.5	115.5
99.0	91.7
49.5	66.8
24.8	50.0
12.4	41.3
0.0	34.3

Application Sheet for Antithrombin with INNOVANCE® Antithrombin

For additional information, limitations and interferences please refer to the Instructions for Use of the analyzer and check current Instructions for Use for reagents, controls and calibrators and tables of assigned/ analytical values.

Document ID: 3146480104
Release Date: June 2011
Valid from software version: 00-17

Distribution: ☒ outside USA ☐ global ☐ in USA only

The parameters defined in this application sheet have been developed by Siemens Healthcare Diagnostics to provide optimal product performance with the assay and instrument combination. Any modification to these parameters may affect performance of this and other assays in use on your system and the resulting assay values. It is the responsibility of the user to validate any modifications and their impact on all assay results. Results of this test should always be interpreted in conjunction with the patient's medical history, clinical presentation and other findings.
The application sheet lists all combinations of controls and calibrators for use with the reagent and instrument system; other combinations are not validated or supported by Siemens.

Materials Required

Material	Catalog #	Size	On-board position
INNOVANCE® Antithrombin Assay	OPFH	Kit	—
INNOVANCE® Antithrombin REAGENT	—	2.7 mL	Reagent holder position 4 [1]
INNOVANCE® Antithrombin SUBSTRATE	—	2.7 mL	Reagent holder position 6 [2]
INNOVANCE® Antithrombin BUFFER	—	5 mL	Reagent holder position 10
Standard Human Plasma (SHP)	ORKL	1 mL	Sample rack position 1
Control Plasma N	ORKE	1 mL	Any position on sample rack
Control Plasma P	OUPZ	1 mL	
Dade® Ci-Trol® 1	291070	1 mL	
Dade® CA System Buffer (OVB)	B4265	500 mL	Buffer position 12
Dade® Owren´s Veronal Buffer (OVB)	B4234	15 mL	
CA CLEAN I	964-0631-3	50 mL	Rinse position 11
BC Vial Kit	OVKE	5 mL	—

Additional Notes

[1] Alternatively, any other cooled reagent position can be used.
Please note: If reagents recommended for cooling are stored on a non-cooled position, a reduced on-board stability has to be anticipated.
[2] Alternatively, any other non-cooled reagent position (positions 5 to 10) can be used.
If reagents, rinse solutions or buffers are not supplied in exactly fitting vials it is necessary to transfer them into appropiate vials.
The required controls and calibrators have to be transferred into appropriate sample cups.

On-board Stability

Material	Name in Test Protocol	Time [h]
INNOVANCE® Antithrombin REAGENT	ATReag	8
INNOVANCE® Antithrombin SUBSTRATE	ATSub	8
INNOVANCE® Antithrombin BUFFER	ATBuf	8

In order to achieve the maximum reagent stability over several days, we recommend the following procedure. Pour 0.9 mL INNOVANCE® Antithrombin REAGENT, 0.9 mL INNOVANCE® Antithrombin SUBSTRATE, and 1.6 mL INNOVANCE® Antithrombin BUFFER from the original vial into 3.5 mL sample cups, Catalog # 73-646. Place these cups on the system. Store the reagents in their closed original vials at +2 °C to +8 °C. The same procedure can be followed again up to day 3. Under these conditions the stability data listed in the table above are still valid. Please refer to the Instructions for Use “Once-opened stability” information regarding the stability for reagents stored in original containers.
The stability data presented here were established under controlled laboratory conditions. Due to differences in laboratory environmental conditions and reagent vial fill volumes performance may vary. Please contact your local service representative to report any issues.

Application Sheet for Antithrombin with INNOVANCE® Antithrombin

Document ID: 3146480104
Release Date: June 2011

Interference Studies

No interferences up to ...		
Triglycerides	mg/dL	681
Hemoglobin	mg/dL	1000
Bilirubin	mg/dL	60

Performance Characteristics

The following studies were conducted using specimens collected in 3.2 % sodium citrate solution.

Method Comparison

Predicate Device	Regression Equation	r
Berichrom® Antithrombin III (A) Assay on Sysmex® CA-500 series System	y = 0.98 x + 0.87	0.973

r = Correlation Coefficient

Precision

Acceptable variability (imprecision) should be such that the within device/lab CV of the analytical system on the same lot of control plasma is less than 10 %.

	mean value % of norm	repeatability %	within device/lab %
Control Plasma N	89.5	2.5	4.3
Control Plasma P	29.1	3.2	6.9
Normal plasma pool	97.4	1.3	3.5
Pathological plasma pool	56.6	1.5	4.5

Measuring Range

The measuring range is defined by the concentration of the calibrators used.

Reference Interval

In a study with ostensibly healthy subjects the following data were obtained:

			Unit: % of norm	
Comments	n	Mean	Median	2.5^{th} - 97.5^{th} Percentile
—	150	96.2	96.1	83 - 111

Reference intervals vary from laboratory to laboratory depending on e.g. the technique used; therefore, each laboratory should establish its own reference interval.
For more information on establishing reference intervals see CLSI document C28-A3, “How to Define and Determine Reference Intervals in the Clinical Laboratory; Approved Guideline.”

Bibliography

Refer to the Instructions for Use of the reagent.

Manufacturer

Siemens Healthcare Diagnostics Products GmbH
Emil-von-Behring-Str. 76
35041 Marburg / Germany

USA Distributor

Siemens Healthcare Diagnostics Inc.
Newark, DE 19714 USA

CE

Application Sheet for Antithrombin with INNOVANCE® Antithrombin

Document ID:	3146480104
Release Date:	June 2011

Test Protocol

Special Menu - Settings - Analysis Settings **- Test Protocol**

Test Protocol Name	AT	**STD-Link**	No
Detector	for BCAT3		
Start Point		6 sec	
End Point		21 sec	
Sensitivity	Low Gain		
Wavelength	405 nm	Inc	
Sample Vol		10 µL	
Dil.Vol	ATBuf	110 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
2nd Dil			
D.Samp Vol		40 µL	
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 1		30 sec	
Reag. Vol	ATReag	80 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 2		210 sec	
Reag. Vol	ATSub	80 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 3		0 sec	
Reag. Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0

Standard Curve Calibration

Calibration Parameter 1

Standard Curve **- Select Param.**

Param.	AT%
Units	%
Number Format	XXX.X
Curve Fit	Log Curve

Standard Curve **- Standard Analysis**

Select Dilution Set	10
Calibrator	SHP

Refer to the table of analytical values for the lot specific calibrator value.

		Repl.
Calib. or Dil.Ratio 1	3/2	2
Calib. or Dil.Ratio 2	1/1	2
Calib. or Dil.Ratio 3	1/2	2
Calib. or Dil.Ratio 4	1/4	2
Calib. or Dil.Ratio 5	1/8	2
Calib. or Dil.Ratio 6	1/16	2

Data Check

Special Menu - Settings - Data Check

- Mark Limits

Select Param.	AT%

Number of Replicates

Special Menu - Settings - Analysis Settings

- Set Replication

Replicates	1

Standard Curve (example only)

A new standard curve should be established with each change of reagent lot or with any deviation from controls or proficiency testing limits.

AT%

%	dOD
135.0	0.299
90.0	0.524
45.0	0.889
22.5	1.137
11.3	1.295
5.6	1.377

Application Sheet for Antithrombin III with Berichrom® Antithrombin III (A)

For additional information, limitations and interferences please refer to the Instructions for Use of the analyzer and check current Instructions for Use for reagents, controls and calibrators and tables of assigned/ analytical values.

Document ID: 3145470111
Release Date: June 2011
Valid from software version: 00-17

Distribution: ☒ outside USA ☐ global ☐ in USA only

The parameters defined in this application sheet have been developed by Siemens Healthcare Diagnostics to provide optimal product performance with the assay and instrument combination. Any modification to these parameters may affect performance of this and other assays in use on your system and the resulting assay values. It is the responsibility of the user to validate any modifications and their impact on all assay results. Results of this test should always be interpreted in conjunction with the patient's medical history, clinical presentation and other findings.
The application sheet lists all combinations of controls and calibrators for use with the reagent and instrument system; other combinations are not validated or supported by Siemens.

Materials Required

Material	Catalog #	Size	On-board position
Berichrom® Antithrombin III (A) Assay	OWWR	Kit	—
REAGENT THR	—	5/15 mL	Reagent holder position 4 [1]
SUBSTRATE	—	3 mL	Reagent holder position 6 [2]
REAGENT THR DILUENT	—	30/100 mL	—
Standard Human Plasma (SHP)	ORKL	1 mL	Sample rack position 1
Control Plasma N	ORKE	1 mL	Any position on sample rack
Control Plasma P	OUPZ	1 mL	
Dade® Ci-Trol® 1	291070	1 mL	
Dade® CA System Buffer (OVB)	B4265	500 mL	Buffer position 12
Dade® Owren´s Veronal Buffer (OVB)	B4234	15 mL	
CA CLEAN I	964-0631-3	50 mL	Rinse position 11
BC Vial Kit	OVKE	5 mL	—

Additional Notes

[1] Alternatively, any other cooled reagent position can be used.
Please note: If reagents recommended for cooling are stored on a non-cooled position, a reduced on-board stability has to be anticipated.
[2] Alternatively, any other non-cooled reagent position (positions 5 to 10) can be used.
If reagents, rinse solutions or buffers are not supplied in exactly fitting vials it is necessary to transfer them into appropiate vials.
The required controls and calibrators have to be transferred into appropriate sample cups.

On-board Stability

Material	Name in Test Protocol	Time [h]
REAGENT THR	AT3Thro	8
SUBSTRATE	AT3Subs	8
Dade® CA System Buffer (in GW5 or SLD vials)		8
Dade® Owren´s Veronal Buffer (in GW5 or SLD vials)		8

The stability data presented here were established under controlled laboratory conditions. Due to differences in laboratory environmental conditions and reagent vial fill volumes performance may vary. Please contact your local service representative to report any issues.

Interference Studies

No interferences up to ...		
Triglycerides	mg/dL	1200
Hemoglobin	mg/dL	1000
Bilirubin	mg/dL	60

Application Sheet for Antithrombin III with Berichrom® Antithrombin III (A)

Document ID: 3145470111
Release Date: June 2011

Performance Characteristics

The following studies were conducted using specimens collected in 3.2 % sodium citrate solution.

Method Comparison

Predicate Device	Regression Equation	r
Berichrom® AT III (A) Assay on Sysmex® CA-6000 System	y = 0.95 x + 4.50	0.972

r = Correlation Coefficient

Precision

Acceptable variability (imprecision) should be such that the total coefficient of variation (CV) of the analytical system on the same lot of control plasma is less than 10 %.

	Within Run %	Run to Run %	Total %
Control Plasma N	2.3	4.5	5.0
Control Plasma P	2.9	9.5	9.9

Measuring Range

The measuring range is defined by the concentration of the calibrators used.

Reference Interval

In a study with ostensibly healthy subjects the following data were obtained:

				Unit: % of norm
Comments	n	Mean	Median	2.5^{th} - 97.5^{th} Percentile
—	285	96.1	96.5	79.1 - 114.1

Reference intervals vary from laboratory to laboratory depending on e.g. the technique used; therefore, each laboratory should establish its own reference interval.
For more information on establishing reference intervals see CLSI document C28-A3, “How to Define and Determine Reference Intervals in the Clinical Laboratory; Approved Guideline.”

Bibliography

Refer to the Instructions for Use of the reagent.

Manufacturer

Siemens Healthcare Diagnostics Products GmbH
Emil-von-Behring-Str. 76
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USA Distributor

Siemens Healthcare Diagnostics Inc.
Newark, DE 19714 USA

CE

Application Sheet for Antithrombin III with Berichrom® Antithrombin III (A)

Document ID:	3145470111
Release Date:	June 2011

Test Protocol

Special Menu - Settings - Analysis Settings **- Test Protocol**

Test Protocol Name	AT3	**STD-Link**	No
Detector	for BCAT3		
Start Point		11 sec	
End Point		40 sec	
Sensitivity	Low Gain		
Wavelength	405 nm	Inc	
Sample Vol		10 µL	
Dil.Vol	OVB	83 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
2nd Dil			
D.Samp Vol		20 µL	
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 1		30 sec	
Reag. Vol	AT3Thro	125 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 2		90 sec	
Reag. Vol	AT3Subs	33 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 3		0 sec	
Reag. Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0

Standard Curve Calibration

Calibration Parameter 1

Standard Curve **- Select Param.**

Param.	AT3%
Units	%
Number Format	XXX.X
Curve Fit	Lin-Lin

Standard Curve **- Standard Analysis**

Select Dilution Set	8
Calibrator	SHP

Refer to the table of analytical values for the lot specific calibrator value.

		Repl.
Calib. or Dil.Ratio 1	3/2	2
Calib. or Dil.Ratio 2	1/1	2
Calib. or Dil.Ratio 3	1/2	2
Calib. or Dil.Ratio 4	1/4	2
Calib. or Dil.Ratio 5	1/8	2
Calib. or Dil.Ratio 6	0/1	2

Data Check

Special Menu - Settings - Data Check

- Mark Limits	Select Param.	AT3%

Number of Replicates

Special Menu - Settings - Analysis Settings

- Set Replication	Replicates	1

Standard Curve (example only)

A new standard curve should be established with each change of reagent lot or with any deviation from controls or proficiency testing limits.

AT3%

%	dOD
145.5	0.180
97.0	0.507
48.5	0.832
24.3	0.992
12.1	1.065
0.0	1.097

Application Sheet for Heparin with Berichrom® Heparin

For additional information, limitations and interferences please refer to the Instructions for Use of the analyzer and check current Instructions for Use for reagents, controls and calibrators and tables of assigned/ analytical values.

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Release Date: June 2011
Valid from software version: 00-17

Distribution: ☐ outside USA ☒ global ☐ in USA only

The parameters defined in this application sheet have been developed by Siemens Healthcare Diagnostics to provide optimal product performance with the assay and instrument combination. Any modification to these parameters may affect performance of this and other assays in use on your system and the resulting assay values. It is the responsibility of the user to validate any modifications and their impact on all assay results. Results of this test should always be interpreted in conjunction with the patient's medical history, clinical presentation and other findings.
The application sheet lists all combinations of controls and calibrators for use with the reagent and instrument system; other combinations are not validated or supported by Siemens.

Materials Required

Material	Catalog #	Size	On-board position
Berichrom® Heparin Assay	OWLD	Kit	—
REAGENT AT	—	1 mL	Reagent holder position 1 [1]
REAGENT FX	—	10 mL	Reagent holder position 2 [1]
SUBSTRATE	—	2 mL	Reagent holder position 3 [1]
REAGENT FX DILUENT	—	10 mL	—
Standard Human Plasma (SHP)	ORKL	1 mL	Reagent holder position 9 or 10
Control Plasma N	ORKE	1 mL	Any position on sample rack
Dade® Ci-Trol® Heparin Control, Low	B4224-50	1 mL	
Dade® Ci-Trol® Heparin Control, High	B4224-60	1 mL	
Dade® CA System Buffer (OVB)	B4265	500 mL	Buffer position 12
Dade® Owren´s Veronal Buffer (OVB)	B4234	15 mL	
CA CLEAN I	964-0631-3	50 mL	Rinse position 11
BC Vial Kit	OVKE	5 mL	—

Additional Notes

[1] Alternatively, any other cooled reagent position can be used.
Please note: If reagents recommended for cooling are stored on a non-cooled position, a reduced on-board stability has to be anticipated.
For preparation of the Calibration Plasma (Standard Human Plasma with 1 U/mL Heparin) refer to the Instructions for Use. On-board position: Sample rack position 1.
If reagents, rinse solutions or buffers are not supplied in exactly fitting vials it is necessary to transfer them into appropiate vials.
The required controls and calibrators have to be transferred into appropriate sample cups.

On-board Stability

Material	Name in Test Protocol	Time [h]
REAGENT AT	AT3Reag	4
REAGENT FX	FXaReag	4
SUBSTRATE	HepSubs	4

The stability data presented here were established under controlled laboratory conditions. Due to differences in laboratory environmental conditions and reagent vial fill volumes performance may vary. Please contact your local service representative to report any issues.

Interference Studies

No interferences up to ...		LMW heparin	UF heparin
Triglycerides	mg/dL	252	252
Hemoglobin	mg/dL	100	400
Bilirubin	mg/dL	36	60

Application Sheet for Heparin with Berichrom® Heparin

Document ID: 3175750110
Release Date: June 2011

Performance Characteristics

The following studies were conducted using specimens collected in 3.2 % sodium citrate solution.

Method Comparison

Predicate Device	Regression Equation	r
Berichrom® Heparin Assay on BCT* System	y = 0.92 x - 0.01	0.977

r = Correlation Coefficient

Precision

Acceptable variability (imprecision) should be such that the total coefficient of variation (CV) of the analytical system on the same lot of control plasma is less than 10 %.

	Within Run %	Run to Run %	Total %
Dade® Ci-Trol® Heparin Control, High	4.0	5.2	6.4
Dade® Ci-Trol® Heparin Control, Low	5.6	4.7	7.1

Measuring Range

The measuring range is defined by the concentration of the calibrators used.

Reference Interval

Not applicable.

Bibliography

Refer to the Instructions for Use of the reagent.

Manufacturer

Siemens Healthcare Diagnostics Products GmbH
Emil-von-Behring-Str. 76
35041 Marburg / Germany

USA Distributor

Siemens Healthcare Diagnostics Inc.
Newark, DE 19714 USA

CE

Application Sheet for Heparin with Berichrom® Heparin

Document ID:	3175750110
Release Date:	June 2011

Test Protocol

Special Menu - Settings - Analysis Settings **- Test Protocol**

Test Protocol Name	Hep	**STD-Link**	No
Detector	for BCHep		
Start Point		11 sec	
End Point		40 sec	
Sensitivity		Low Gain	
Wavelength	405 nm	Inc	
Sample Vol		20 µL	
Dil.Vol	SHP	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
2nd Dil			
D.Samp Vol		0 µL	
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 1		30 sec	
Reag. Vol	AT3Reag	20 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 2		60 sec	
Reag. Vol	FXaReag	125 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 3		120 sec	
Reag. Vol	HepSubs	40 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 2

Standard Curve Calibration

Calibration Parameter 1

Standard Curve **- Select Param.**

Param.	Hep
Units	U/mL
Number Format	XX.XX
Curve Fit	Log Curve

Standard Curve **- Standard Analysis**

Select Dilution Set	1
Calibrator	Calibration Plasma

For preparation of the Calibration Plasma 1 U/mL refer to the Instructions for Use of Berichrom® Heparin.

		Repl.
Calib. or Dil.Ratio 1	1/1	2
Calib. or Dil.Ratio 2	1/2	2
Calib. or Dil.Ratio 3	1/4	2
Calib. or Dil.Ratio 4	1/8	2
Calib. or Dil.Ratio 5	1/16	2
Calib. or Dil.Ratio 6	1/32	0

Data Check

Special Menu - Settings - Data Check

- Mark Limits

Select Param.	Hep

Number of Replicates

Special Menu - Settings - Analysis Settings

- Set Replication

Replicates	1

Standard Curve (example only)

A new standard curve should be established with each change of reagent lot or with any deviation from controls or proficiency testing limits.

Hep

U/mL	dOD
1.00	0.171
0.50	0.317
0.25	0.463
0.13	0.600
0.06	0.655

Remarks

For calibration purposes it is necessary to define Standard Human Plasma (SHP) as diluent in the test protocol. The diluent volume has to be set to 0 µL.

Application Sheet for Heparin (LMW) with Berichrom® Heparin

For additional information, limitations and interferences please refer to the Instructions for Use of the analyzer and check current Instructions for Use for reagents, controls and calibrators and tables of assigned/ analytical values.

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Release Date: June 2011
Valid from software version: 00-17

Distribution:
☒ global
☐ outside USA
☐ in USA only

The parameters defined in this application sheet have been developed by Siemens Healthcare Diagnostics to provide optimal product performance with the assay and instrument combination. Any modification to these parameters may affect performance of this and other assays in use on your system and the resulting assay values. It is the responsibility of the user to validate any modifications and their impact on all assay results. Results of this test should always be interpreted in conjunction with the patient's medical history, clinical presentation and other findings.
The application sheet lists all combinations of controls and calibrators for use with the reagent and instrument system; other combinations are not validated or supported by Siemens.

Materials Required

Material	Catalog #	Size	On-board position
Berichrom® Heparin Assay	OWLD	Kit	—
REAGENT AT	—	1 mL	Reagent holder position 1 [1]
REAGENT FX	—	10 mL	Reagent holder position 2 [1]
SUBSTRATE	—	2 mL	Reagent holder position 3 [1]
REAGENT FX DILUENT	—	10 mL	—
Standard Human Plasma (SHP)	ORKL	1 mL	Reagent holder position 9 or 10
Berichrom® Heparin LMW CALIBRATOR	OPCA	1 mL	Sample rack position 1
Berichrom® Heparin LMW CONTROL 1	OPCD	1 mL	Any position on sample rack
Berichrom® Heparin LMW CONTROL 2	OPCB	1 mL	
Dade® CA System Buffer (OVB)	B4265	500 mL	Buffer position 12
Dade® Owren´s Veronal Buffer (OVB)	B4234	15 mL	
CA CLEAN I	964-0631-3	50 mL	Rinse position 11
BC Vial Kit	OVKE	5 mL	—

Additional Notes

[1] Alternatively, any other cooled reagent position can be used.
Please note: If reagents recommended for cooling are stored on a non-cooled position, a reduced on-board stability has to be anticipated.
If reagents, rinse solutions or buffers are not supplied in exactly fitting vials it is necessary to transfer them into appropiate vials.
The required controls and calibrators have to be transferred into appropriate sample cups.

On-board Stability

Material	Name in Test Protocol	Time [h]
REAGENT AT	AT3Reag	4
REAGENT FX	FXaReag	4
SUBSTRATE	HepSubs	4

The stability data presented here were established under controlled laboratory conditions. Due to differences in laboratory environmental conditions and reagent vial fill volumes performance may vary. Please contact your local service representative to report any issues.

Interference Studies

No interferences up to ...		
Triglycerides	mg/dL	252
Hemoglobin	mg/dL	100
Bilirubin	mg/dL	36

Application Sheet for Heparin (LMW) with Berichrom® Heparin

Document ID:	3176750104
Release Date:	June 2011

Performance Characteristics

Calibrator Comparison

The following study represents a functional correlation between standard curves of the 2nd WHO Standard for low molecular weight heparin and the Berichrom® Heparin LMW Calibrator.

Predicate Device	Regression Equation	r
Berichrom® Heparin Assay with WHO Standard	y = 1.00 x + 0.04	0.998

r = Correlation Coefficient

Precision

The precision study was conducted using specimens collected in 3.2 % sodium citrate solution.
Acceptable variability (imprecision) should be such that the total standard deviation (SD) of the analytical system of a normal plasma is less than ± 0.05 IU/mL and less than ± 0.15 IU/mL for a sample of 1.0 IU/mL.

	mean value IU/mL	repeatability IU/mL	within device/lab IU/mL
Berichrom® Heparin LMW CONTROL 1	0.38	±0.01	±0.02
Berichrom® Heparin LMW CONTROL 2	0.81	±0.02	±0.02

Measuring Range

The measuring range is defined by the concentration of the calibrators used.

Reference Interval

Not applicable.

Bibliography

Refer to the Instructions for Use of the reagent.

Manufacturer

Siemens Healthcare Diagnostics Products GmbH
Emil-von-Behring-Str. 76
35041 Marburg / Germany

USA Distributor

Siemens Healthcare Diagnostics Inc.
Newark, DE 19714 USA

CE

Application Sheet for Heparin (LMW) with Berichrom® Heparin

Document ID:	3176750104
Release Date:	June 2011

Test Protocol

Special Menu - Settings - Analysis Settings **- Test Protocol**

Test Protocol Name	HepL	**STD-Link**	No
Detector	for BCHep		
Start Point	11 sec		
End Point	40 sec		
Sensitivity	Low Gain		
Wavelength	405 nm	Inc	
Sample Vol	20 µL		
Dil.Vol	SHP	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
2nd Dil			
D.Samp Vol	0 µL		
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 1	30 sec		
Reag. Vol	AT3Reag	20 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 2	60 sec		
Reag. Vol	FXaReag	125 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 3	120 sec		
Reag. Vol	HepSubs	40 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 2

Standard Curve Calibration

Calibration Parameter 1

Standard Curve **- Select Param.**

Param.	HepL
Units	IU/mL
Number Format	XX.XX
Curve Fit	Lin Pt-Pt

Standard Curve **- Standard Analysis**

Select Dilution Set	2
Calibrator	Berichrom® Heparin LMW Cal.

Refer to the table of analytical values for the lot specific heparin concentration of Berichrom® Heparin LMW Calibrator.

		Repl.
Calib. or Dil.Ratio 1	1/1	2
Calib. or Dil.Ratio 2	4/5	2
Calib. or Dil.Ratio 3	3/5	2
Calib. or Dil.Ratio 4	2/5	2
Calib. or Dil.Ratio 5	1/5	2
Calib. or Dil.Ratio 6	0/1	2

Data Check

Special Menu - Settings - Data Check

- Mark Limits	Select Param.	HepL

Number of Replicates

Special Menu - Settings - Analysis Settings

- Set Replication	Replicates	1

Standard Curve (example only)

A new standard curve should be established with each change of reagent lot or with any deviation from controls or proficiency testing limits.

HepL

IU/mL	dOD
1.49	0.221
1.19	0.260
0.89	0.338
0.60	0.421
0.30	0.551
0.00	0.653

Remarks

For calibration purposes it is necessary to define Standard Human Plasma (SHP) as diluent in the test protocol. The diluent volume in the test protocol has to be set to 0 µL. Define and set Standard Human Plasma on Reagent holder position 9 or 10. Set Berichrom® Heparin LMW Calibrator on Sample rack postion 1.

Application Sheet for Heparin (UF) with Berichrom® Heparin

For additional information, limitations and interferences please refer to the Instructions for Use of the analyzer and check current Instructions for Use for reagents, controls and calibrators and tables of assigned/ analytical values.

Document ID: 3177750104
Release Date: June 2011
Valid from software version: 00-17

Distribution:
☒ global
☐ outside USA
☐ in USA only

The parameters defined in this application sheet have been developed by Siemens Healthcare Diagnostics to provide optimal product performance with the assay and instrument combination. Any modification to these parameters may affect performance of this and other assays in use on your system and the resulting assay values. It is the responsibility of the user to validate any modifications and their impact on all assay results. Results of this test should always be interpreted in conjunction with the patient's medical history, clinical presentation and other findings.
The application sheet lists all combinations of controls and calibrators for use with the reagent and instrument system; other combinations are not validated or supported by Siemens.

Materials Required

Material	Catalog #	Size	On-board position
Berichrom® Heparin Assay	OWLD	Kit	—
REAGENT AT	—	1 mL	Reagent holder position 1 [1]
REAGENT FX	—	10 mL	Reagent holder position 2 [1]
SUBSTRATE	—	2 mL	Reagent holder position 3 [1]
REAGENT FX DILUENT	—	10 mL	—
Standard Human Plasma (SHP)	ORKL	1 mL	Reagent holder position 9 or 10
Berichrom® Heparin UF CALIBRATOR	OPCC	1 mL	Sample rack position 1
Berichrom® Heparin UF CONTROL 1	OPBY	1 mL	Any position on sample rack
Berichrom® Heparin UF CONTROL 2	OPBZ	1 mL	
Dade® CA System Buffer (OVB)	B4265	500 mL	Buffer position 12
Dade® Owren´s Veronal Buffer (OVB)	B4234	15 mL	
CA CLEAN I	964-0631-3	50 mL	Rinse position 11
BC Vial Kit	OVKE	5 mL	—

Additional Notes

[1] Alternatively, any other cooled reagent position can be used.
Please note: If reagents recommended for cooling are stored on a non-cooled position, a reduced on-board stability has to be anticipated.
If reagents, rinse solutions or buffers are not supplied in exactly fitting vials it is necessary to transfer them into appropiate vials.
The required controls and calibrators have to be transferred into appropriate sample cups.

On-board Stability

Material	Name in Test Protocol	Time [h]
REAGENT AT	AT3Reag	4
REAGENT FX	FXaReag	4
SUBSTRATE	HepSubs	4

The stability data presented here were established under controlled laboratory conditions. Due to differences in laboratory environmental conditions and reagent vial fill volumes performance may vary. Please contact your local service representative to report any issues.

Interference Studies

No interferences up to ...		
Triglycerides	mg/dL	252
Hemoglobin	mg/dL	400
Bilirubin	mg/dL	60

Application Sheet for Heparin (UF) with Berichrom® Heparin

Document ID: 3177750104
Release Date: June 2011

Performance Characteristics

Calibrator Comparison
The following study represents a functional correlation between standard curves of the 5th WHO Standard for unfractionated heparin and the Berichrom® Heparin UF Calibrator.

Predicate Device	Regression Equation	r
Berichrom® Heparin Assay with WHO Standard	y = 0.96 x + 0.01	0.999

r = Correlation Coefficient

Precision
The precision study was conducted using specimens collected in 3.2 % sodium citrate solution.
Acceptable variability (imprecision) should be such that the total standard deviation (SD) of the analytical system of a normal plasma is less than ± 0.05 IU/mL and less than ± 0.15 IU/mL for a sample of 1.0 IU/mL.

	mean value IU/mL	repeatability IU/mL	within device/lab IU/mL
Berichrom® Heparin UF CONTROL 1	0.27	±0.01	±0.01
Berichrom® Heparin UF CONTROL 2	0.67	±0.01	±0.02

Measuring Range
The measuring range is defined by the concentration of the calibrators used.

Reference Interval
Not applicable.

Bibliography

Refer to the Instructions for Use of the reagent.

Manufacturer

Siemens Healthcare Diagnostics Products GmbH
Emil-von-Behring-Str. 76
35041 Marburg / Germany

USA Distributor

Siemens Healthcare Diagnostics Inc.
Newark, DE 19714 USA

CE

Application Sheet for Heparin (UF) with Berichrom® Heparin

Document ID:	3177750104
Release Date:	June 2011

Test Protocol

Special Menu - Settings - Analysis Settings **- Test Protocol**

Test Protocol Name	HepU	**STD-Link**	No
Detector	for BCHep		
Start Point		11 sec	
End Point		40 sec	
Sensitivity	Low Gain		
Wavelength	405 nm	Inc	
Sample Vol		20 µL	
Dil.Vol	SHP	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
2nd Dil			
D.Samp Vol		0 µL	
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 1		30 sec	
Reag. Vol	AT3Reag	20 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 2		60 sec	
Reag. Vol	FXaReag	125 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 3		120 sec	
Reag. Vol	HepSubs	40 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 2

Standard Curve Calibration

Calibration Parameter 1

Standard Curve **- Select Param.**

Param.	HepU
Units	IU/mL
Number Format	XX.XX
Curve Fit	Lin Pt-Pt

Standard Curve **- Standard Analysis**

Select Dilution Set	2
Calibrator	Berichrom® Heparin UF Cal.

Refer to the table of analytical values for the lot specific heparin concentration of Berichrom® Heparin UF Calibrator.

		Repl.
Calib. or Dil.Ratio 1	1/1	2
Calib. or Dil.Ratio 2	4/5	2
Calib. or Dil.Ratio 3	3/5	2
Calib. or Dil.Ratio 4	2/5	2
Calib. or Dil.Ratio 5	1/5	2
Calib. or Dil.Ratio 6	0/1	2

Data Check

Special Menu - Settings - Data Check

- Mark Limits

Select Param.	HepU

Number of Replicates

Special Menu - Settings - Analysis Settings

- Set Replication

Replicates	1

Standard Curve (example only)

A new standard curve should be established with each change of reagent lot or with any deviation from controls or proficiency testing limits.

HepU

IU/mL	dOD
1.28	0.117
1.02	0.151
0.77	0.227
0.51	0.313
0.26	0.480
0.00	0.646

Remarks

For calibration purposes it is necessary to define Standard Human Plasma (SHP) as diluent in the test protocol. The diluent volume in the test protocol has to be set to 0 µL. Define and set Standard Human Plasma on Reagent holder position 9 or 10. Set Berichrom® Heparin UF Calibrator on Sample rack postion 1.

Application Sheet for Protein C with Berichrom® Protein C

For additional information, limitations and interferences please refer to the Instructions for Use of the analyzer and check current Instructions for Use for reagents, controls and calibrators and tables of assigned/ analytical values.

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Release Date: June 2011
Valid from software version: 00-17

Distribution: ☐ outside USA ☒ global ☐ in USA only

The parameters defined in this application sheet have been developed by Siemens Healthcare Diagnostics to provide optimal product performance with the assay and instrument combination. Any modification to these parameters may affect performance of this and other assays in use on your system and the resulting assay values. It is the responsibility of the user to validate any modifications and their impact on all assay results. Results of this test should always be interpreted in conjunction with the patient's medical history, clinical presentation and other findings.
The application sheet lists all combinations of controls and calibrators for use with the reagent and instrument system; other combinations are not validated or supported by Siemens.

Materials Required

Material	Catalog #	Size	On-board position
Berichrom® Protein C Assay	OUVV	Kit	—
ACTIVATOR	—	5/10 mL	Reagent holder position 1 [1]
SUBSTRATE	—	3 mL	Reagent holder position 2 [1]
ACTIVATOR DILUENT	—	30 mL	—
Standard Human Plasma (SHP)	ORKL	1 mL	Sample rack position 1
Control Plasma N	ORKE	1 mL	Any position on sample rack
Control Plasma P	OUPZ	1 mL	
Dade® CA System Buffer (OVB)	B4265	500 mL	Buffer position 12
Dade® Owren´s Veronal Buffer (OVB)	B4234	15 mL	
CA CLEAN I	964-0631-3	50 mL	Rinse position 11
BC Vial Kit	OVKE	5 mL	—

Additional Notes

[1] Alternatively, any other cooled reagent position can be used.
Please note: If reagents recommended for cooling are stored on a non-cooled position, a reduced on-board stability has to be anticipated.
If reagents, rinse solutions or buffers are not supplied in exactly fitting vials it is necessary to transfer them into appropiate vials.
The required controls and calibrators have to be transferred into appropriate sample cups.

On-board Stability

Material	Name in Test Protocol	Time [h]
ACTIVATOR	BCPCAct	48
SUBSTRATE	BCPCSub	48

The stability data presented here were established under controlled laboratory conditions. Due to differences in laboratory environmental conditions and reagent vial fill volumes performance may vary. Please contact your local service representative to report any issues.

Interference Studies

No interferences up to ...		
Triglycerides	mg/dL	284
Hemoglobin	mg/dL	400
Bilirubin	mg/dL	36

Application Sheet for Protein C with Berichrom® Protein C

Document ID:	3155550110
Release Date:	June 2011

Performance Characteristics

The following studies were conducted using specimens collected in 3.2 % sodium citrate solution.

Method Comparison

Predicate Device	Regression Equation	r
Berichrom® Protein C Assay on BCT* System	y = 1.05 x - 1.02	0.963

r = Correlation Coefficient

Precision

Acceptable variability (imprecision) should be such that the total coefficient of variation (CV) of the analytical system on the same lot of control plasma is less than 10 %.

	Within Run %	Run to Run %	Total %
Control Plasma N	1.6	1.0	1.8
Control Plasma P	3.6	1.4	3.6

Measuring Range

The measuring range is defined by the concentration of the calibrators used.

Reference Interval

Refer to the Instructions for Use of the reagent.
Reference intervals vary from laboratory to laboratory depending on e.g. the technique used; therefore, each laboratory should establish its own reference interval.
For more information on establishing reference intervals see CLSI document C28-A3, “How to Define and Determine Reference Intervals in the Clinical Laboratory; Approved Guideline.”

Bibliography

Refer to the Instructions for Use of the reagent.

Manufacturer

Siemens Healthcare Diagnostics Products GmbH
Emil-von-Behring-Str. 76
35041 Marburg / Germany

USA Distributor

Siemens Healthcare Diagnostics Inc.
Newark, DE 19714 USA

CE

Application Sheet for Protein C with Berichrom® Protein C

Document ID:	3155550110
Release Date:	June 2011

Test Protocol

Special Menu - Settings - Analysis Settings **- Test Protocol**

Test Protocol Name	BCPC	**STD-Link**	No
Detector	for BCPC		
Start Point	11 sec		
End Point	100 sec		
Sensitivity	Low Gain		
Wavelength	405 nm	Inc	
Sample Vol		20 µL	
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
2nd Dil			
D.Samp Vol		0 µL	
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 1		60 sec	
Reag. Vol	BCPCAct	125 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 2		540 sec	
Reag. Vol	BCPCSub	30 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 3		0 sec	
Reag. Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0

Standard Curve Calibration

Calibration Parameter 1

Standard Curve **- Select Param.**

Param.	BCPC%
Units	%
Number Format	XXX.X
Curve Fit	Lin-Lin

Standard Curve **- Standard Analysis**

Select Dilution Set	1
Calibrator	SHP

Refer to the table of analytical values for the lot specific calibrator value.

		Repl.
Calib. or Dil.Ratio 1	1/1	2
Calib. or Dil.Ratio 2	1/2	2
Calib. or Dil.Ratio 3	1/4	2
Calib. or Dil.Ratio 4	1/8	2
Calib. or Dil.Ratio 5	1/16	2
Calib. or Dil.Ratio 6	1/32	2

Data Check

Special Menu - Settings - Data Check

- Mark Limits	Select Param.	BCPC%

Number of Replicates

Special Menu - Settings - Analysis Settings

- Set Replication	Replicates	1

Standard Curve (example only)

A new standard curve should be established with each change of reagent lot or with any deviation from controls or proficiency testing limits.

BCPC%

%	dOD
97.0	0.148
48.5	0.080
24.3	0.039
12.1	0.019
6.1	0.009
3.0	0.004

Application Sheet for D-Dimer with D-Dimer PLUS

For additional information, limitations and interferences please refer to the Instructions for Use of the analyzer and check current Instructions for Use for reagents, controls and calibrators and tables of assigned/ analytical values.

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Release Date: June 2011	
Valid from software version: 00-17	
Valid only for model: CA-560	
Distribution:	☒ outside USA
☐ global	☐ in USA only

The parameters defined in this application sheet have been developed by Siemens Healthcare Diagnostics to provide optimal product performance with the assay and instrument combination. Any modification to these parameters may affect performance of this and other assays in use on your system and the resulting assay values. It is the responsibility of the user to validate any modifications and their impact on all assay results. Results of this test should always be interpreted in conjunction with the patient's medical history, clinical presentation and other findings.
The application sheet lists all combinations of controls and calibrators for use with the reagent and instrument system; other combinations are not validated or supported by Siemens.

Materials Required

Material	Catalog #	Size	On-board position
D-Dimer PLUS Assay	OQWW	Kit	—
D-Dimer PLUS REAGENT	—	3 / 4 mL	Reagent holder position 8 [2]
D-Dimer PLUS ACTIVATOR	—	3 / 5 mL	Reagent holder position 4 [1]
D-Dimer PLUS REAGENT DILUENT	—	25 mL	—
D-Dimer PLUS STANDARD	OQXA	6 x 1 mL	Sample rack position 1
D-Dimer CONTROL 1	OQKA	1 mL	Any position on sample rack
D-Dimer CONTROL 2	OQKB	1 mL	
Dade® CA System Buffer (OVB)	B4265	500 mL	Buffer position 12
Dade® Owren´s Veronal Buffer (OVB)	B4234	15 mL	
CA CLEAN I	964-0631-3	50 mL	Rinse position 11
BC Vial Kit	OVKE	5 mL	—

Additional Notes

[1] Alternatively, any other cooled reagent position can be used.
Please note: If reagents recommended for cooling are stored on a non-cooled position, a reduced on-board stability has to be anticipated.
[2] Alternatively, any other non-cooled reagent position (positions 5 to 10) can be used.
If reagents, rinse solutions or buffers are not supplied in exactly fitting vials it is necessary to transfer them into appropiate vials.
The required controls and calibrators have to be transferred into appropriate sample cups.
It is generally recommended to place the reagents on the system using original vials. If cups are used instead, do not leave the reagents on the system for longer than described in the table of on-board stabilities and use Sample Cup Conical 4.0 mL, REF 424-1160-8.

On-board Stability

Material	Name in Test Protocol	Time [h]
D-Dimer PLUS REAGENT	DD.PL.R	48
D-Dimer PLUS REAGENT (Conical Cup)		8
D-Dimer PLUS ACTIVATOR	DD.PL.A	48
D-Dimer PLUS ACTIVATOR (Conical Cup)		8

The stability data presented here were established under controlled laboratory conditions. Due to differences in laboratory environmental conditions and reagent vial fill volumes performance may vary. Please contact your local service representative to report any issues.

Interference Studies

No interferences up to ...		
Triglycerides	mg/dL	---*
Hemoglobin	mg/dL	400
Bilirubin	mg/dL	60

* Turbid samples can lead to falsely elevated or decreased values even if triglyceride concentrations are within the normal range.

Application Sheet for D-Dimer with D-Dimer PLUS

Document ID: 3187890110
Release Date: June 2011

Performance Characteristics

The following studies were conducted using specimens collected in 3.2 % sodium citrate solution.

Method Comparison

Predicate Device	Regression Equation	r
D-Dimer PLUS Assay on Sysmex® CA-7000 System	y = 1.01 x + 16.92	0.992

r = Correlation Coefficient

Precision

Acceptable variability (imprecision) should be such that the total coefficient of variation (CV) of the analytical system on the same lot of control plasma is less than 15 %.

	Within Run %	Run to Run %	Total %
D-Dimer CONTROL 1	2.4	1.8	2.9
D-Dimer CONTROL 2	1.6	1.4	2.0

Measuring Range

The D-Dimer PLUS total measuring range on the Sysmex® CA-500 Series Systems extends from 47 µg/L to 9999 µg/L. This total measuring range is achieved by a manually requested redilution of the sample if the range of the standard curve (approximately 47 µg/L - 2332 µg/L) is exceeded.

Reference Interval

In a study with ostensibly healthy subjects the following data were obtained:

			Unit: µg/L	
Comments	n	Mean	Median	5th - 95th Percentile
—	130	152	115	< 50 - 372

24 samples were below the limit of detection of 50 µg/L.
Reference intervals vary from laboratory to laboratory depending on e.g. the technique used; therefore, each laboratory should establish its own reference interval.
For more information on establishing reference intervals see CLSI document C28-A3, “How to Define and Determine Reference Intervals in the Clinical Laboratory; Approved Guideline.”

Bibliography

Refer to the Instructions for Use of the reagent.

Manufacturer

Siemens Healthcare Diagnostics Products GmbH
Emil-von-Behring-Str. 76
35041 Marburg / Germany

USA Distributor

Siemens Healthcare Diagnostics Inc.
Newark, DE 19714 USA

CE

Application Sheet for D-Dimer with D-Dimer PLUS

Document ID: 3187890110
Release Date: June 2011

Test Protocol

Special Menu - Settings - Analysis Settings **- Test Protocol**

Test Protocol Name	DDPI	**STD-Link**	Master
Detector	for DDPLUS		
Sensitivity	Low Gain		
Wavelength	575 nm	Inc	
Sample Vol		50 µL	
Dil.Vol	*******	0 µL	
Pre. Rinse	Clean I		x 1
Post. Rinse	*******		x 0
2nd Dil			
D.Samp Vol		0 µL	
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 1		30 sec	
Reag. Vol	DD.PI.A	25 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 2		60 sec	
Reag. Vol	DD.PI.R	150 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 3		0 sec	
Reag. Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0

Standard Curve Calibration

Calibration Parameter 1
Standard Curve **- Select Param.**

Param.	DDPI
Units	µg/L
Number Format	XXXX
Curve Fit	Lin Pt-Pt

Standard Curve **- Standard Analysis**

Select Dilution Set	6
Calibrator	DD PLUS Standard Plasma

Refer to the D-Dimer PLUS STANDARD Table of Analytical Values for the D-Dimer concentration of D-Dimer PLUS STANDARD 2.

		Repl.
Calib. or Dil.Ratio 1	10/19	3
Calib. or Dil.Ratio 2	5/19	3
Calib. or Dil.Ratio 3	5/38	3
Calib. or Dil.Ratio 4	1/19	3
Calib. or Dil.Ratio 5	1/38	3
Calib. or Dil.Ratio 6	1/95	3

Data Check

Special Menu - Settings - Data Check

- Mark Limits
- Replic. Limits
- Report Limits

Select Param.	DDPI
Difference (%)	20
lower (<)	50 µg/L
upper (>)	2000 µg/L

Number of Replicates

Special Menu - Settings - Analysis Settings

- Set Replication

Replicates	2

Standard Curve (example only)

A new standard curve should be established with each change of reagent lot or with any deviation from controls or proficiency testing limits.

DDPI

µg/L	dOD
2332	0.4400
1166	0.2723
583	0.1270
233	0.0259
117	0.0145
47	0.0093

Application Sheet for D-Dimer with D-Dimer PLUS

Document ID: 3187890110
Release Date: June 2011

Test Protocol

Special Menu - Settings - Analysis Settings **- Test Protocol**

Test Protocol Name	+DDP	**STD-Link**	DDPI
Detector	for DDPLUS		
Sensitivity	Low Gain		
Wavelength	575 nm	Inc	
Sample Vol		15 µL	
Dil.Vol	OVB	105 µL	
Pre. Rinse	Clean I		x 1
Post. Rinse	*******		x 0
2nd Dil			
D.Samp Vol		50 µL	
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 1		30 sec	
Reag. Vol	DD.PI.A	25 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 2		60 sec	
Reag. Vol	DD.PI.R	150 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 3		0 sec	
Reag. Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0

Standard Curve Calibration

Not applicable - Standard curve for “DDPI” will be used automatically. For more information refer to the Instructions for Use of the analyzer.

Data Check

Special Menu - Settings - Data Check

	Select Param.	+DDP
- Mark Limits	Difference (%)	20
- Replic. Limits	lower (<)	2000 µg/L
- Report Limits	upper (>)	9999 µg/L

Number of Replicates

Special Menu - Settings - Analysis Settings

- Set Replication	Replicates	2

Remarks

Both, DDPI and +DDP should be set in the test group setting to enable manual sample redilution if the standard curve range is exceeded. All samples above the upper report limit should be repeated using the appropriate +DDP Setting again. The redilution has to be requested manually.

Application Sheet for D-Dimer with Advanced D-Dimer

For additional information, limitations and interferences please refer to the Instructions for Use of the analyzer and check current Instructions for Use for reagents, controls and calibrators and tables of assigned/ analytical values.

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Valid only for model: CA-560	
Distribution:	☐ outside USA
☐ global	☒ in USA only

The parameters defined in this application sheet have been developed by Siemens Healthcare Diagnostics to provide optimal product performance with the assay and instrument combination. Any modification to these parameters may affect performance of this and other assays in use on your system and the resulting assay values. It is the responsibility of the user to validate any modifications and their impact on all assay results. Results of this test should always be interpreted in conjunction with the patient's medical history, clinical presentation and other findings.
The application sheet lists all combinations of controls and calibrators for use with the reagent and instrument system; other combinations are not validated or supported by Siemens.

Materials Required

Material	Catalog #	Size	On-board position
Advanced D-Dimer Assay	OQWM	Kit	—
Advanced D-Dimer REAGENT	—	3 / 4 mL	Reagent holder position 8 [2]
Advanced D-Dimer ACTIVATOR	—	3 / 5 mL	Reagent holder position 4 [1]
Advanced D-Dimer REAGENT DILUENT	—	25 mL	—
Advanced D-Dimer STANDARD	OQWR	6 x 1 mL	Sample rack position 1
Advanced D-Dimer CONTROL 1	OQWT	1 mL	Any position on sample rack
Advanced D-Dimer CONTROL 2	OQWV	1 mL	
Advanced D-Dimer REAGENT DILUENT	OQWP	25 mL	—
Dade® CA System Buffer (OVB)	B4265	500 mL	Buffer position 12
Dade® Owren´s Veronal Buffer (OVB)	B4234	15 mL	
CA CLEAN I	964-0631-3	50 mL	Rinse position 11
BC Vial Kit	OVKE	5 mL	—

Additional Notes

[1] Alternatively, any other cooled reagent position can be used.
Please note: If reagents recommended for cooling are stored on a non-cooled position, a reduced on-board stability has to be anticipated.
[2] Alternatively, any other non-cooled reagent position (positions 5 to 10) can be used.
If reagents, rinse solutions or buffers are not supplied in exactly fitting vials it is necessary to transfer them into appropiate vials.
The required controls and calibrators have to be transferred into appropriate sample cups.
It is generally recommended to place the reagents on the system using original vials. If cups are used instead, do not leave the reagents on the system for longer than described in the table of on-board stabilities and use Sample Cup Conical 4.0 mL, REF B4267-4.

On-board Stability

Material	Name in Test Protocol	Time [h]
Advanced D-Dimer REAGENT	Ad.DD.R	48
Advanced D-Dimer REAGENT (Conical Cup)		8
Advanced D-Dimer ACTIVATOR	Ad.DD.R	48
Advanced D-Dimer ACTIVATOR (Conical Cup)		8

The stability data presented here were established under controlled laboratory conditions. Due to differences in laboratory environmental conditions and reagent vial fill volumes performance may vary. Please contact your local service representative to report any issues.

Interference Studies

No interferences up to ...		
Triglycerides	mg/dL	---*
Hemoglobin	mg/dL	400
Bilirubin	mg/dL	60

* Turbid samples can lead to falsely elevated or decreased values even if triglyceride concentrations are within the normal range.

Application Sheet for D-Dimer with Advanced D-Dimer

Document ID: 3187880111
Release Date: June 2011

Performance Characteristics

The following studies were conducted using specimens collected in 3.2 % sodium citrate solution.

Method Comparison

Predicate Device	Regression Equation	r
Advanced D-Dimer Assay on Sysmex® CA-7000 System	y = 1.01 x + 0.14	0.992

r = Correlation Coefficient

Precision

Acceptable variability (imprecision) should be such that the total coefficient of variation (CV) of the analytical system on the same lot of control plasma is less than 15 %.

	Within Run %	Run to Run %	Total %
Advanced D-Dimer CONTROL 1	2.4	1.8	2.9
Advanced D-Dimer CONTROL 2	1.6	1.4	2.0

Measuring Range

The Advanced D-Dimer total measuring range on the Sysmex® CA-500 Series Systems extends from 0.43 to 99.99 mg/L (FEU). This total measuring range is achieved by a manually requested redilution of the sample if the range of the standard curve (approximately 0.43 - 17.00 mg/L(FEU)) is exceeded.

Reference Interval

In a study with ostensibly healthy subjects the following data were obtained:

			Unit: mg/L (FEU)	
Comments	n	Mean	Median	5^{th} - 95^{th} Percentile
—	130	1.29	0.98	< 0.43 - 3.17

24 samples were below the limit of detection of 0.43 mg/L (FEU).
Reference intervals vary from laboratory to laboratory depending on e.g. the technique used; therefore, each laboratory should establish its own reference interval.
For more information on establishing reference intervals see CLSI document C28-A3, “How to Define and Determine Reference Intervals in the Clinical Laboratory; Approved Guideline.”

Bibliography

Refer to the Instructions for Use of the reagent.

Manufacturer

Siemens Healthcare Diagnostics Products GmbH
Emil-von-Behring-Str. 76
35041 Marburg / Germany

USA Distributor

Siemens Healthcare Diagnostics Inc.
Newark, DE 19714 USA

Application Sheet for D-Dimer with Advanced D-Dimer

Document ID: 3187880111
Release Date: June 2011

Test Protocol

Special Menu - Settings - Analysis Settings **- Test Protocol**

Test Protocol Name	AdDD	**STD-Link**	Master
Detector	for Adv. DD		
Sensitivity	Low Gain		
Wavelength	575 nm	Inc	
Sample Vol		50 µL	
Dil.Vol	*******	0 µL	
Pre. Rinse	Clean I		x 1
Post. Rinse	*******		x 0
2nd Dil			
D.Samp Vol		0 µL	
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 1		30 sec	
Reag. Vol	Ad.DD.A	25 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 2		60 sec	
Reag. Vol	Ad.DD.R	150 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 3		0 sec	
Reag. Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0

Standard Curve Calibration

Calibration Parameter 1
Standard Curve **- Select Param.**

Param.	Adv.DD
Units	mg/L
Number Format	XX.XX
Curve Fit	Lin Pt-Pt

Standard Curve **- Standard Analysis**

Select Dilution Set	6
Calibrator	Adv.DD Standard Plasma

Refer to the Advanced D-Dimer STANDARD Table of Analytical Values for the D-Dimer concentration of Advanced D-Dimer STANDARD 2.

		Repl.
Calib. or Dil.Ratio 1	10/19	3
Calib. or Dil.Ratio 2	5/19	3
Calib. or Dil.Ratio 3	5/38	3
Calib. or Dil.Ratio 4	1/19	3
Calib. or Dil.Ratio 5	1/38	3
Calib. or Dil.Ratio 6	1/95	3

Data Check

Special Menu - Settings - Data Check

- Mark Limits
- Replic. Limits
- Report Limits

Select Param.	Adv.DD
Difference (%)	20
lower (<)	0.43 mg/L
upper (>)	17.00 mg/L

Number of Replicates

Special Menu - Settings - Analysis Settings

- Set Replication

Replicates	2

Standard Curve (example only)

A new standard curve should be established with each change of reagent lot or with any deviation from controls or proficiency testing limits.

Adv.DD	
mg/L (FEU)	dOD
17.84	0.4394
8.92	0.2741
4.46	0.1288
1.78	0.0243
0.89	0.0133
0.36	0.0083

Application Sheet for D-Dimer with Advanced D-Dimer

Document ID: 3187880111
Release Date: June 2011

Test Protocol

Special Menu - Settings - Analysis Settings **- Test Protocol**

Test Protocol Name	+AdD	**STD-Link**	AdDD
Detector	for Adv. DD		
Sensitivity	Low Gain		
Wavelength	575 nm	Inc	
Sample Vol		15 µL	
Dil.Vol	OVB	105 µL	
Pre. Rinse	Clean I		x 1
Post. Rinse	*******		x 0
2nd Dil			
D.Samp Vol		50 µL	
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 1		30 sec	
Reag. Vol	Ad.DD.A	25 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 2		60 sec	
Reag. Vol	Ad.DD.R	150 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 3		0 sec	
Reag. Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0

Standard Curve Calibration

Not applicable - Standard curve created with “AdDD” will be used automatically. For more information refer to the Instructions for Use of the analyzer.

Data Check

Special Menu - Settings - Data Check

- Mark Limits	Select Param.	+AdD
- Replic. Limits	Difference (%)	20
- Report Limits	lower (<)	17.00 mg/L
	upper (>)	99.99 mg/L

Number of Replicates

Special Menu - Settings - Analysis Settings

- Set Replication	Replicates	2

Remarks

Both, AdDD and +AdD should be set in the test group setting to enable manual sample redilution if the standard curve range is exceeded. All samples above the upper report limit should be repeated using the appropriate +AdD setting again. The redilution has to be requested manually.

Application Sheet for D-Dimer with INNOVANCE® D-Dimer

For additional information, limitations and interferences please refer to the Instructions for Use of the analyzer and check current Instructions for Use for reagents, controls and calibrators and tables of assigned/ analytical values.

Document ID: 3187870108	
Release Date: June 2011	
Valid from software version: 00-17	
Valid only for model: CA-560	
Distribution:	☒ outside USA
☐ global	☐ in USA only

The parameters defined in this application sheet have been developed by Siemens Healthcare Diagnostics to provide optimal product performance with the assay and instrument combination. Any modification to these parameters may affect performance of this and other assays in use on your system and the resulting assay values. It is the responsibility of the user to validate any modifications and their impact on all assay results. Results of this test should always be interpreted in conjunction with the patient's medical history, clinical presentation and other findings.
The application sheet lists all combinations of controls and calibrators for use with the reagent and instrument system; other combinations are not validated or supported by Siemens.

Materials Required

Material	Catalog #	Size	On-board position
INNOVANCE® D-Dimer Assay	OPBP	Kit	—
INNOVANCE® D-Dimer REAGENT	—	4 mL	Reagent holder position 6 [2]
INNOVANCE® D-Dimer BUFFER	—	5 mL	Reagent holder position 4 [1]
INNOVANCE® D-Dimer SUPPLEMENT	—	2.6 mL	Reagent holder position 8 [2]
INNOVANCE® D-Dimer DILUENT	—	5 mL	Reagent holder position 10
INNOVANCE® D-Dimer CALIBRATOR	—	1 mL	Sample rack position 1
INNOVANCE® D-Dimer Controls	OPDY	Kit	—
INNOVANCE® D-Dimer CONTROL 1	—	1 mL	Any position on sample rack
INNOVANCE® D-Dimer CONTROL 2	—	1 mL	
INNOVANCE® D-Dimer DILUENT	OPBR	5 mL	Reagent holder position 10
Dade® CA System Buffer (OVB)	B4265	500 mL	Buffer position 12
Dade® Owren´s Veronal Buffer (OVB)	B4234	15 mL	
CA CLEAN I	964-0631-3	50 mL	Rinse position 11

Additional Notes

[1] Alternatively, any other cooled reagent position can be used.
Please note: If reagents recommended for cooling are stored on a non-cooled position, a reduced on-board stability has to be anticipated.
[2] Alternatively, any other non-cooled reagent position (positions 5 to 10) can be used.
If reagents, rinse solutions or buffers are not supplied in vials, which fit on the instrument exactly it is necessary to transfer them into appropiate vials.
The required controls and calibrators have to be transferred into 4 mL Conical Cups (catalog # 424-1160-8).
Push vials (Push Vial PV-10, catalog # 541-1352-1) and 5 mL vials from the BC Vial kit (catalog # OVKE) can be used as appropriate vials for reagents, rinse solutions or buffers that are not supplied in vials that fit exactly on the instrument.
Plasma samples should not be stored frozen for more than 4 weeks. If frozen samples are stored longer than 4 weeks, they should be measured in batch mode. Controls should be measured pre- and post-run.

Limitations
Higher levels of lipids or turbid samples can lead to falsely elevated or decreased values. It is therefore recommended to perform an additional centrifugation step of the plasma (10 minutes at approx. 15.000 x g) before analyzing lipemic patient specimens.

Application Sheet for D-Dimer with INNOVANCE® D-Dimer

Document ID: 3187870108
Release Date: June 2011

On-board Stability

Material	Name in Test Protocol	Time [h]
INNOVANCE® D-Dimer REAGENT	DDI.REA	16
INNOVANCE® D-Dimer REAGENT (Conical Cup)		4
INNOVANCE® D-Dimer DILUENT	DDI.DIL	16
INNOVANCE® D-Dimer DILUENT (Conical Cup)		4
INNOVANCE® D-Dimer BUFFER	DDI.BUF	16
INNOVANCE® D-Dimer BUFFER (Conical Cup)		4
INNOVANCE® D-Dimer SUPPLEMENT	DDI.SUP	16
INNOVANCE® D-Dimer SUPPLEMENT (Conical Cup)		4

In original vials, the reagents may be left on board the instrument continuously for 16 hours or stored on and off the instrument for intervals of 7 x 1 hour over a maximum period of 14 days.
Storage and stability are described in the Instructions for Use. INNOVANCE® D-Dimer controls need to validate each new test run.
The stability data presented here were established under controlled laboratory conditions. Due to differences in laboratory environmental conditions and reagent vial fill volumes performance may vary. Please contact your local service representative to report any issues.

Interference Studies

No interferences up to ...		
Triglycerides	mg/dL	400
Hemoglobin	mg/dL	200
Bilirubin	mg/dL	12

Performance Characteristics

The following studies were conducted using specimens collected in 3.2 % sodium citrate solution.

Method Comparison

Predicate Device	Regression Equation	r
INNOVANCE® D-Dimer Assay on Sysmex® CA-1500 System	y = 0.98 x + 0.03	0.998

r = Correlation Coefficient

Precision
Acceptable variability (imprecision) should be such that the within device/lab CV of the analytical system on the same lot of control plasma is less than 15 %.

	mean value mg/L FEU	repeatability %	within device/lab %
INNOVANCE® D-Dimer CONTROL 1	0.30	5.3	6.7
INNOVANCE® D-Dimer CONTROL 2	2.69	3.9	5.2

Measuring Range
The INNOVANCE® D-Dimer total measuring range on the Sysmex® CA-500 Series Systems extends from 0.19 to 35.20 mg/L FEU. This total measuring range is achieved by a manually requested redilution of the sample if the redilution limits of 0.19 to 4.40 mg/L FEU are exceeded. Samples with concentrations above 35.20 mg/L FEU can be further diluted manually with INNOVANCE® D-Dimer DILUENT.

Reference Interval
In a study with ostensibly healthy subjects the following data were obtained:

			Unit: mg/L FEU	
Comments	n	Mean	Median	90th Percentile
—	150	---	---	0.55

Reference intervals vary from laboratory to laboratory depending on the population served and the technique and reagent lot used. Therefore, each laboratory must establish its own reference intervals or verify them whenever one or more of the aforementioned variables are changed.
For more information on establishing reference intervals see CLSI document C28-A3, “How to Define and Determine Reference Intervals in the Clinical Laboratory; Approved Guideline.”

Application Sheet for D-Dimer with INNOVANCE® D-Dimer

Document ID:	3187870108
Release Date:	June 2011

Bibliography

Refer to the Instructions for Use of the reagent.

Manufacturer

Siemens Healthcare Diagnostics Products GmbH
Emil-von-Behring-Str. 76
35041 Marburg / Germany

USA Distributor

Siemens Healthcare Diagnostics Inc.
Newark, DE 19714 USA

CE

Application Sheet for D-Dimer with INNOVANCE® D-Dimer

Document ID: 3187870108
Release Date: June 2011

Test Protocol

Special Menu - Settings - Analysis Settings **- Test Protocol**

Test Protocol Name	DDi	**STD-Link**	Master
Detector	for IMMUNO2		
Sensitivity	Low Gain		
Wavelength	575 nm	Inc	
Sample Vol		8 µL	
Dil.Vol	DDi.DIL	12 µL	
Pre. Rinse	OVB		x 1
Post. Rinse	*******		x 0
2nd Dil			
D.Samp Vol		0 µL	
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 1		30 sec	
Reag. Vol	DDi.SUP	16 µL	
Pre. Rinse	*******		x 0
Post. Rinse	OVB		x 1
Reagent 2		60 sec	
Reag. Vol	DDi.BUF	80 µL	
Pre. Rinse	*******		x 0
Post. Rinse	OVB		x 1
Reagent 3		180 sec	
Reag. Vol	DDi.REA	44 µL	
Pre. Rinse	OVB		x 1
Post. Rinse	OVB		x 1

Standard Curve Calibration

Calibration Parameter 1
Standard Curve **- Select Param.**

Param.	DDi
Units	mg/L
Number Format	XX.XX
Curve Fit	Log Curve

Standard Curve **- Standard Analysis**

Select Dilution Set	1
Calibrator	DDi.CAL

Refer to the table of analytical values for the lot specific D-Dimer concentration of INNOVANCE® D-Dimer CALIBRATOR.

		Repl.
Calib. or Dil.Ratio 1	1/1	2
Calib. or Dil.Ratio 2	1/2	2
Calib. or Dil.Ratio 3	1/4	2
Calib. or Dil.Ratio 4	1/8	2
Calib. or Dil.Ratio 5	1/16	2
Calib. or Dil.Ratio 6	1/32	2

Data Check

Special Menu - Settings - Data Check

- Replic. Limits
- Report Limits

Difference (%)	20
lower (<)	0.19 mg/L
upper (>)	4.40 mg/L

Number of Replicates

Special Menu - Settings - Analysis Settings

- Set Replication

Replicates	1

Standard Curve (example only)

A new standard curve should be established with each change of reagent lot or with any deviation from controls or proficiency testing limits.

DDi

mg/L	dOD
5.30	0.1896
2.65	0.1401
1.33	0.0768
0.66	0.0345
0.33	0.0143
0.17	0.0074

Remarks

The units of measure for INNOVANCE® D-Dimer assay are mg/L FEU. The software of the instruments uses only mg/L for technical reasons.

Application Sheet for D-Dimer with INNOVANCE® D-Dimer

Document ID: 3187870108
Release Date: June 2011

Test Protocol

Special Menu - Settings - Analysis Settings **- Test Protocol**

Test Protocol Name	+DDi	**STD-Link**	DDi
Detector	for IMMUNO2		
Sensitivity	Low Gain		
Wavelength	575 nm	Inc	
Sample Vol		10 µL	
Dil.Vol	DDi.DIL	70 µL	
Pre. Rinse	OVB		x 1
Post. Rinse	*******		x 0
2nd Dil			
D.Samp Vol		8 µL	
Dil.Vol	DDi.DIL	12 µL	
Pre. Rinse	OVB		x 1
Post. Rinse	*******		x 0
Reagent 1		30 sec	
Reag. Vol	DDi.SUP	16 µL	
Pre. Rinse	*******		x 0
Post. Rinse	OVB		x 1
Reagent 2		60 sec	
Reag. Vol	DDi.BUF	80 µL	
Pre. Rinse	*******		x 0
Post. Rinse	OVB		x 1
Reagent 3		180 sec	
Reag. Vol	DDi.REA	44 µL	
Pre. Rinse	OVB		x 1
Post. Rinse	OVB		x 1

Standard Curve Calibration

Not applicable - Standard curve for “DDi” will be used automatically. Ensure that the STD-Link in the test protocol is set to "DDi". For more information refer to Operator`s Manual.

Data Check

Special Menu - Settings - Data Check

- Replic. Limits	Difference (%)	20
- Report Limits	lower (<)	3.65 mg/L
	upper (>)	35.20 mg/L

Number of Replicates

Special Menu - Settings - Analysis Settings

- Set Replication	Replicates	1

Remarks

Both, DDi and +DDi should be set in the test group setting to enable manual sample redilution if the standard curve range is exceeded.
All samples above the upper report limit should be repeated using the appropriate +DDi setting again. The redilution has to be requested manually.
The units of measure for INNOVANCE® D-Dimer assay are mg/L FEU. The software of the instruments uses only mg/L for technical reasons.
Important!
The parameters given in the Application Sheet have to be entered into the software carefully. Additionally, there are parameters which have to be entered by the service only. Please contact your local service.

Application Sheet for von Willebrand Factor with vWF Ag*

For additional information, limitations and interferences please refer to the Instructions for Use of the analyzer and check current Instructions for Use for reagents, controls and calibrators and tables of assigned/ analytical values.

Document ID: 3180810109	
Release Date: June 2011	
Valid from software version: 00-17	
Valid only for model: CA-560	
Distribution:	☒ outside USA
☐ global	☐ in USA only

The parameters defined in this application sheet have been developed by Siemens Healthcare Diagnostics to provide optimal product performance with the assay and instrument combination. Any modification to these parameters may affect performance of this and other assays in use on your system and the resulting assay values. It is the responsibility of the user to validate any modifications and their impact on all assay results. Results of this test should always be interpreted in conjunction with the patient's medical history, clinical presentation and other findings.
The application sheet lists all combinations of controls and calibrators for use with the reagent and instrument system; other combinations are not validated or supported by Siemens.

Materials Required

Material	Catalog #	Size	On-board position
vWF Ag* Assay	OPAB	Kit	—
REAGENT (diluent added)	—	2 + 4 mL	Reagent holder position 5 - 10
BUFFER (Glycine buffer)	—	5 mL	Reagent holder position 5 - 10
Standard Human Plasma (SHP)	ORKL	1 mL	Sample rack position 1
Control Plasma N	ORKE	1 mL	Any position on sample rack
Control Plasma P	OUPZ	1 mL	
Dade® CA System Buffer (OVB)	B4265	500 mL	Buffer position 12
Dade® Owren´s Veronal Buffer (OVB)	B4234	15 mL	
CA CLEAN I	964-0631-3	50 mL	Rinse position 11
BC Vial Kit	OVKE	5 mL	—

Additional Notes

If reagents, rinse solutions or buffers are not supplied in exactly fitting vials it is necessary to transfer them into appropiate vials.
The required controls and calibrators have to be transferred into appropriate sample cups.

On-board Stability

Material	Name in Test Protocol	Time [h]
BUFFER	vWFBuf	8
REAGENT	vWFReag	8
Dade® CA System Buffer	OVB	8

The stability data presented here were established under controlled laboratory conditions. Due to differences in laboratory environmental conditions and reagent vial fill volumes performance may vary. Please contact your local service representative to report any issues.

Interference Studies

No interferences up to ...		
Triglycerides	mg/dL	300
Hemoglobin	mg/dL	1000
Bilirubin	mg/dL	36

Application Sheet for von Willebrand Factor with vWF Ag*

Document ID: 3180810109
Release Date: June 2011

Performance Characteristics

The following studies were conducted using specimens collected in 3.2 % sodium citrate solution.

Method Comparison

Predicate Device	Regression Equation	r
vWF Ag* Assay on Sysmex® CA-1500 System	y = 1.01 x + 1.33	0.995

r = Correlation Coefficient

Precision

Acceptable variability (imprecision) should be such that the total coefficient of variation (CV) of the analytical system on the same lot of control plasma is less than 15 %.

		Within Run %	Run to Run %	Total %
Control Plasma N	(vWF)	1.3	1.1	1.6
Control Plasma P	(vWF)	1.7	1.9	2.5

Measuring Range

The vWF Ag* total measuring range on the Sysmex® CA-500 series Systems extends from 6 % to 600 %. This total measuring range is achieved by a manually requested redilution of the sample if the reportable range of the standard curve (12.5 % - 200 %) is fallen below or exceeded.

Reference Interval

In a study with ostensibly healthy subjects the following data were obtained:

			Unit: %	
Comments	n	Mean	Median	5th - 95th Percentile
Total	204	105.3	99.1	61.7 - 178.1
Blood group 0	80	87.6	77.8	59.4 - 145.3
Other blood groups	124	116.7	114.2	70.6 - 183.7

Reference intervals vary from laboratory to laboratory depending on the population served and the technique and reagent lot used. Therefore, each laboratory must establish its own reference intervals or verify them whenever one or more of the aforementioned variables are changed.

For more information on establishing reference intervals see CLSI document C28-A3, “How to Define and Determine Reference Intervals in the Clinical Laboratory; Approved Guideline.”

Bibliography

Refer to the Instructions for Use of the reagent.

Manufacturer

Siemens Healthcare Diagnostics Products GmbH
Emil-von-Behring-Str. 76
35041 Marburg / Germany

USA Distributor

Siemens Healthcare Diagnostics Inc.
Newark, DE 19714 USA

CE

Application Sheet for von Willebrand Factor with vWF Ag*

Document ID:	3180810109
Release Date:	June 2011

Test Protocol

Special Menu - Settings - Analysis Settings **- Test Protocol**

Test Protocol Name	vWF	**STD-Link**	Master
Detector	for Immuno 1		
Sensitivity	Low Gain		
Wavelength	575 nm	Inc	
Sample Vol		15 µL	
Dil.Vol	OVB	15 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
2nd Dil			
D.Samp Vol		0 µL	
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 1		30 sec	
Reag. Vol	vWFBuf	60 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 2		270 sec	
Reag. Vol	vWFReag	90 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 3		0 sec	
Reag. Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0

Standard Curve Calibration

Calibration Parameter 1

Standard Curve **- Select Param.**

Param.	vWF%
Units	%
Number Format	XXX.X
Curve Fit	Log Curve

Standard Curve **- Standard Analysis**

Select Dilution Set	7
Calibrator	SHP

Refer to the table of analytical values for the lot specific calibrator value.

		Repl.
Calib. or Dil.Ratio 1	2/1	2
Calib. or Dil.Ratio 2	1/1	2
Calib. or Dil.Ratio 3	1/2	2
Calib. or Dil.Ratio 4	1/4	2
Calib. or Dil.Ratio 5	1/8	2
Calib. or Dil.Ratio 6	0/1	0

Data Check

Special Menu - Settings - Data Check

- Mark Limits	Select Param.	vWF%
- Replic. Limits	Difference (%)	15
- Report Limits	lower (<)	12.5 %
	upper (>)	200.0 %

Number of Replicates

Special Menu - Settings - Analysis Settings

- Set Replication	Replicates	1

Standard Curve (example only)

A new standard curve should be established with each change of reagent lot or with any deviation from controls or proficiency testing limits.

vWF%

%	dOD
202.0	0.1447
101.0	0.0736
50.5	0.0321
25.3	0.0136
12.6	0.0055

Remarks

In order to guarantee reliable analysis results it is crucial to modify the analysis parameter for this assay. The necessary technical modification has to be done by a Siemens representative.

All samples with unknown vWF antigen concentration should be measured with vWF setting first.

See next page.

Application Sheet for von Willebrand Factor with vWF Ag*

Document ID:	3180810109
Release Date:	June 2011

Test Protocol

Special Menu - Settings - Analysis Settings **- Test Protocol**

Test Protocol Name	+vWF	**STD-Link**	vWF
Detector	for Immuno 1		
Sensitivity	Low Gain		
Wavelength	575 nm	Inc	
Sample Vol		5 µL	
Dil.Vol	OVB	25 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
2nd Dil			
D.Samp Vol		0 µL	
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 1		30 sec	
Reag. Vol	vWFBuf	60 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 2		270 sec	
Reag. Vol	vWFReag	90 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 3		0 sec	
Reag. Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0

Standard Curve Calibration

Not applicable - Standard curve for “vWF” will be used automatically.

Data Check

Special Menu - Settings - Data Check

- Mark Limits	Select Param.	+vWF
- Replic. Limits	Difference (%)	15
- Report Limits	lower (<)	200.0 %
	upper (>)	600.0 %

Number of Replicates

Special Menu - Settings - Analysis Settings

- Set Replication	Replicates	1

Remarks

vWF should also be set as +vWF and -vWF in the test group setting to enable manual sample redilution if the standard curve range is fallen below or exceeded.
All samples above the upper report limit should be repeated using the appropriate +vWF setting. The redilution has to be requested manually.
All samples below the lower report limit should be repeated using the appropriate -vWF setting. The redilution has to be requested manually.

Application Sheet for von Willebrand Factor with vWF Ag*

Document ID:	3180810109
Release Date:	June 2011

Test Protocol

Special Menu - Settings - Analysis Settings **- Test Protocol**

Test Protocol Name	-vWF	**STD-Link**	vWF
Detector	for Immuno 1		
Sensitivity	Low Gain		
Wavelength	575 nm	Inc	
Sample Vol		30 µL	
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
2nd Dil			
D.Samp Vol		0 µL	
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 1		30 sec	
Reag. Vol	vWFBuf	60 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 2		270 sec	
Reag. Vol	vWFReag	90 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 3		0 sec	
Reag. Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0

Standard Curve Calibration

Not applicable - Standard curve for “vWF” will be used automatically.

Data Check

Special Menu - Settings - Data Check

- Mark Limits	Select Param.	-vWF
- Replic. Limits	Difference (%)	15
- Report Limits	lower (<)	6.0 %
	upper (>)	12.5 %

Number of Replicates

Special Menu - Settings - Analysis Settings

- Set Replication	Replicates	1

Application Sheet for von Willebrand Factor with INNOVANCE® VWF Ac

For additional information, limitations and interferences please refer to the Instructions for Use of the analyzer and check current Instructions for Use for reagents, controls and calibrators and tables of assigned/ analytical values.

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Valid from software version: 00-17	
Valid only for model: CA-560	
Distribution:	☒ outside USA
☐ global	☐ in USA only

The parameters defined in this application sheet have been developed by Siemens Healthcare Diagnostics to provide optimal product performance with the assay and instrument combination. Any modification to these parameters may affect performance of this and other assays in use on your system and the resulting assay values. It is the responsibility of the user to validate any modifications and their impact on all assay results. Results of this test should always be interpreted in conjunction with the patient's medical history, clinical presentation and other findings.
The application sheet lists all combinations of controls and calibrators for use with the reagent and instrument system; other combinations are not validated or supported by Siemens.

Materials Required

Material	Catalog #	Size	On-board position
INNOVANCE® VWF Ac Assay	OPHL	Kit	—
REAGENT I	—	2.0 mL	Reagent holder position 1 - 4
REAGENT II	—	3.5 mL	Reagent holder position 5 - 10
REAGENT III	—	2.5 mL	
Standard Human Plasma (SHP)	ORKL	1 mL	Sample rack position 1
Control Plasma N	ORKE	1 mL	Any position on sample rack
Control Plasma P	OUPZ	1 mL	
Dade® CA System Buffer (OVB)	B4265	500 mL	Buffer position 12
Dade® Owren´s Veronal Buffer (OVB)	B4234	15 mL	
CA CLEAN I	964-0631-3	50 mL	Rinse position 11
BC Vial Kit	OVKE	5 mL	—

Additional Notes

REAGENT I, II and III must not be used in Sysmex Sample Cups on the Reagent Holder Positions.
As a control in the low measurement range, Control Plasma P (OUPZ) diluted 1:3 with Dade® Owren's Veronal Buffer or Dade® CA System Buffer can be used. The expected value is calculated by division of the given concentration in the Table of Assigned Values and the divisor of 3. The range of the diluted control is +/- 4.0 % of norm VWF.
If reagents, rinse solutions or buffers are not supplied in exactly fitting vials it is necessary to transfer them into appropiate vials.
The required controls and calibrators have to be transferred into appropriate sample cups.

On-board Stability

Material	Name in Test Protocol	Time [h]
REAGENT I	WFAcI	8
REAGENT II	WFAcII	8
REAGENT III	WFAcIII	24
Control Plasma N		4
Control Plasma P		4
Control Plasma P, 1:3 diluted		4

REAGENT I and II may be stored on and off the instrument for intervals of 2 x 4 hours over a maximum period of 2 weeks. REAGENT III may be stored on and off the instrument for intervals of 6 x 4 hours over a maximum period of 6 weeks.
The stability data presented here were established under controlled laboratory conditions. Due to differences in laboratory environmental conditions and reagent vial fill volumes performance may vary. Please contact your local service representative to report any issues.

Interference Studies

No interferences up to ...		WFa/+WFa	-WFa
Triglycerides	mg/dL	416	---*
Hemoglobin	mg/dL	1000	200
Bilirubin	mg/dL	60	48

* Turbid samples can lead to falsely elevated or decreased values even if triglyceride concentrations are within the normal range.

Application Sheet for von Willebrand Factor with INNOVANCE® VWF Ac

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Performance Characteristics

The following studies were conducted using specimens collected in 3.2 % sodium citrate solution.

Method Comparison

Predicate Device	Regression Equation	r
INNOVANCE® VWF Ac on BCS® / BCS® XP System	y = 1.09x -0.98	0.994

r = Correlation Coefficient

Precision

Acceptable variability (imprecision) should be such that the within device CV of the analytical system on the same lot of control plasma is less than 15 %.

	Test Protocol Name	mean value % of norm	repeatability %	within device %
Control Plasma N	WFa	91.7	1.5	1.9
Control Plasma P	WFa	33.5	3.0	3.4
Pathological plasma pool 2	- WFa	8.9	3.4	4.5
Pathological plasma pool 3	+WFa	435	3.1	4.0

Measuring Range

The INNOVANCE® VWF Ac total measuring range on the Sysmex® CA-500 series Systems extends from 6 % to 500 %. This total measuring range is achieved by a manually requested redilution of the sample as +WFa or -WFa if the reportable range of the standard is > 125 % or < 25 %.

Reference Interval

In a study with ostensibly healthy subjects the following data were obtained:

			Unit: % of norm	
Comments	n	Mean	Median	2.5^{th} - 97.5^{th} Percentile
Blood group independent	263	107.8	103.1	55.0 - 193.9
Blood group 0	129	92.5	89.3	50.6 - 147.4
Blood group non-0	134	122.6	120.0	72.7 - 208.2

Reference intervals vary from laboratory to laboratory depending on the population served and the technique and reagent lot used. Therefore, each laboratory must establish its own reference intervals or verify them whenever one or more of the aforementioned variables are changed.

For more information on establishing reference intervals see CLSI document C28-A3, “How to Define and Determine Reference Intervals in the Clinical Laboratory; Approved Guideline.”

Bibliography

Refer to the Instructions for Use of the reagent.

Manufacturer

Siemens Healthcare Diagnostics Products GmbH
Emil-von-Behring-Str. 76
35041 Marburg / Germany

USA Distributor

Siemens Healthcare Diagnostics Inc.
Newark, DE 19714 USA

CE

Application Sheet for von Willebrand Factor with INNOVANCE® VWF Ac

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Test Protocol

Special Menu - Settings - Analysis Settings **- Test Protocol**

Test Protocol Name	WFa	**STD-Link**	Master
Detector	for Immuno 3		
Sensitivity	Low Gain		
Wavelength	575 nm	Inc	
Sample Vol		12 µL	
Dil.Vol	OVB	48 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
2nd Dil			
D.Samp Vol		0 µL	
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 1		30 sec	
Reag. Vol	WFAcII	50 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 2	WFAcIII	60 sec	
Reag. Vol		20 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 3		300 sec	
Reag. Vol	WFAcI	20 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1

Standard Curve Calibration

Calibration Parameter 1

Standard Curve **- Select Param.**

Param.	vWFAc%
Units	%
Number Format	XXX.X
Curve Fit	Lin Pt-Pt

Standard Curve **- Standard Analysis**

Select Dilution Set	8
Calibrator	SHP

Refer to the table of analytical values for the lot specific calibrator value.

		Repl.
Calib. or Dil.Ratio 1	3/2	2
Calib. or Dil.Ratio 2	1/1	2
Calib. or Dil.Ratio 3	1/2	2
Calib. or Dil.Ratio 4	1/4	2
Calib. or Dil.Ratio 5	1/8	0
Calib. or Dil.Ratio 6	0/1	0

Data Check

Special Menu - Settings - Data Check

- Mark Limits
- Replic. Limits
- Report Limits

Select Param.	WFa
Difference (%)	20
lower (<)	25.0 %
upper (>)	125.0 %

Number of Replicates

Special Menu - Settings - Analysis Settings

- Set Replication

Replicates	1

Standard Curve (example only)

A new standard curve should be established with each change of reagent lot or with any deviation from controls or proficiency testing limits.

WFa	
%	dOD
147.0	0.2250
98.0	0.1788
49.0	0.0835
24.5	0.0334

Remarks

In order to guarantee reliable analysis results it is crucial to modify the analysis parameter for this assay. The necessary technical modification has to be done by a Siemens representative.

All samples with unknown VWF activity concentration should be measured with WFa setting first.

Application Sheet for von Willebrand Factor with INNOVANCE® VWF Ac

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Test Protocol

Special Menu - Settings - Analysis Settings **- Test Protocol**

Test Protocol Name	+WFa	**STD-Link**	WFa
Detector	for Immuno 3		
Sensitivity	Low Gain		
Wavelength	575 nm	Inc	
Sample Vol		20 µL	
Dil.Vol	OVB	60 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
2nd Dil			
D.Samp Vol		12 µL	
Dil.Vol	OVB	48 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 1		30 sec	
Reag. Vol	WFAcII	50 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 2		60 sec	
Reag. Vol	WFAcIII	20 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 3		300 sec	
Reag. Vol	WFAcI	20 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1

Standard Curve Calibration

Not applicable - Standard curve for “WFa” will be used automatically.

Data Check

Special Menu - Settings - Data Check

- Mark Limits	Select Param.	+WFa
- Replic. Limits	Difference (%)	20
- Report Limits	lower (<)	100.0 %
	upper (>)	500.0 %

Number of Replicates

Special Menu - Settings - Analysis Settings

- Set Replication	Replicates	1

Remarks

VWF should also be set as +WFa and -WFa in the test group setting to enable manual sample redilution if the standard curve range is fallen below or exceeded.
All samples above the upper report limit should be repeated using the appropriate +WFa setting. The redilution has to be requested manually.
All samples below the lower report limit should be repeated using the appropriate -WFa setting. The redilution has to be requested manually.
The errors listed in the table below may appear if the sample measured contains a very low or undetectable level of VWF (e.g. Type 3 von Willebrand disease). If not already done, the sample should be measured by using the VWF low setting and also by using other assays, e.g. VWF Ag.

Result	**Raw value**	**Error code**
*.****	*---.-	Measurement Error
*.****	*---.-	No Linearity
*.****	*---.-	Reaction Curve Error
*.****	*---.-	Range Over
*.****	*---.-	Trans Light Low

Application Sheet for von Willebrand Factor with INNOVANCE® VWF Ac

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Test Protocol

Special Menu - Settings - Analysis Settings **- Test Protocol**

Test Protocol Name	-WFa	**STD-Link**	WFa
Detector	for Immuno 3		
Sensitivity	Low Gain		
Wavelength	575 nm	Inc	
Sample Vol		48 µL	
Dil.Vol	OVB	12 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
2nd Dil			
D.Samp Vol		0 µL	
Dil.Vol	*******	0 µL	
Pre. Rinse	*******		x 0
Post. Rinse	*******		x 0
Reagent 1		30 sec	
Reag. Vol	WFAcII	50 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 2		60 sec	
Reag. Vol	WFAcIII	20 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1
Reagent 3		300 sec	
Reag. Vol	WFAcI	20 µL	
Pre. Rinse	*******		x 0
Post. Rinse	Clean I		x 1

Standard Curve Calibration

Not applicable - Standard curve for “WFa” will be used automatically.

Data Check

Special Menu - Settings - Data Check

	Select Param.	-WFa
- Mark Limits		
- Replic. Limits	Difference (%)	20
- Report Limits	lower (<)	6.0 %
	upper (>)	30.0 %

Number of Replicates

Special Menu - Settings - Analysis Settings

- Set Replication	Replicates	1

Appendix
General Information to the Applications

On-board Stability

The on-board stability of CA CLEAN I for all applications is 24 h (in PV-10 or SLD vials).