Premarket Notification 510(k) Summary

This summary of 510(k) safety and effectiveness information is being submitted in accordance with the requirements of SMDA 1990 and 21 CFR 807.92.

The assigned 510(k) number is: K083729

Submitted by: Aniara Diagnostica, LLC
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MAY - 8 2009

Date of 510(k) Preparation: December, 2008

Name of the Devices:
1. HEMOCLOT Quanti V-L
2. Factor V-L Calibrator
3. BIOPHEN V-L CAL (Undiluted)
4. BIOPHEN Act PC-r Control Plasma

Classification Name: Test, Partial Thrombin Time
Secondary Calibrator
Coagulation Control Plasma

Class: II

Classification Panels: Hematology (81)

Product Code: GGW, Test, Partial Thrombin Time
JIT, Calibrator, Secondary
GGN, Plasma, Coagulation Control

Regulation numbers: 864.7925
862.1150
864.5425

Identification of the Predicate Device:

COATEST APC Resistance V (K963111)
(Chromogenix)

Description of the Device:

[All devices are manufactured by Hyphen-Biomed]

1. HEMOCLOT Quanti V-L is an in vitro diagnostic test kit containing 3 vials of each of the following 2 lyophilized reagents:

   R1: Reagent 1: Clotting mixture containing human Fibrinogen, human prothrombin, Protein S at a constant concentration, optimized for the assay, and human Activated Protein C, lyophilized. It also contains a heparin neutralizing substance. Each vial is to be reconstituted with exactly 2 ml of distilled water.

   R2: Reagent 2: Purified Human Factor Xa, containing rabbit brain phospholipds (cephalin), lyophilized. Each vial is to be reconstituted with exactly 1 ml of distilled water.

   Calibrators and controls to be used with the test kit are supplied separately. The following calibrators and control are included in this submission:

2. Factor V-L Calibrator is a calibrator kit containing 3 vials each of 1.0 ml prediluted human plasma (1:20), freeze dried, at 4 different concentrations of FV-L, to cover the assay range, from 10% to 100%. Each vial is restored with 1.0 ml Owren Koller type buffer.

3. BIOPHEN V-L CAL (Undiluted) is a calibrator kit containing 3 vials each of 0.5 ml undiluted human plasma, freeze dried, at 3 different concentrations of FV-L, to cover the assay range, from about 10% to 100%. Each vial is restored with 0.5 ml distilled water.

4. BIOPHEN Act PC-r Control Plasma is a controls kit containing 12 vials of 0.5 ml human plasma, presenting an Activated Protein C Resistance (APC-R), citrated and lyophilized. Each vial is to be reconstituted with exactly 0.5 ml of distilled water.

5. BIOPHEN Normal Control Plasma manufactured by Hyphen-Biomed, is also used with the test kit and is currently marketed in the US under 510(k) # K043451. It is a controls kit containing 12 vials of 1.0 ml of normal citrated human plasma, lyophilized. Each vial is to be reconstituted with exactly 1.0 ml of distilled water.

Intended Use:

1. HEMOCLOT Quanti V-L is a clotting method for measuring the Factor V Leiden (FVL) activity in human citrated plasma, by its resistance to the action of Activated Protein C (APC). The assay is performed in the presence of Activated Protein C and Protein S (one single test for each patient). In the presence of APC, the prolongation of clotting time is an inverse relationship of the concentration of Factor V-Leiden (mutation R506Q). Normal Factor V is not measured.

2. Factor V-L Calibrator is lyophilized, pre-diluted (1:20) human plasmas, at defined Factor V-Leiden (FV-L) concentrations, for the calibration of Factor V-L activity quantitative clotting assay on human citrated plasma, using the HEMOCLOT Quanti. V-L Kit (ref CK065K).

3. BIOPHEN V-L CAL (Undiluted) is lyophilized, undiluted human plasmas, at defined Factor V-Leiden (FV-L) concentrations for the calibration curve of Factor V-L activity quantitative clotting assay on human citrated plasma, using HEMOCLOT Quanti V-L Kit (ref CK065K).

4. BIOPHEN Act PC-r Control Plasma kit contains human plasma, presenting an activated Protein C Resistance (APC-R), usually correlated with the genetic mutation of Factor V

R506Q. This plasma is used as quality control plasma for the testing of Activated Protein C Resistance (APC-R).

5. (Updated) BIOPHEN Normal Control Plasma is a set of 12 vials of normal citrated human plasma for the quality control of some coagulation factors. The following table shows the various parameters, which are measured using assays from HYPHEN BioMed or from other manufacturers, and according to the package inserts:

Assays	Reagents	Manufacturers	Reference
ATIII	Biophen ATIII	Hyphen Biomed	221102/221105
Protein C	Biophen Protein C	Hyphen Biomed	221202/221205
aPC resistance (FV Leiden)	Hemoclot Quanti V-L	Hyphen Biomed	CK065K
Lupus Anticoagulant	DVVtest®/DVVconfirm®	American Diagnostica	810/815/815L

DVVtest, DVVconfirm are registered trade marks from American Diagnostica, Inc.

The BIOPHEN Normal Control Plasma is tested for the absence of Lupus Anticoagulant and can be used as a negative control for this investigation. This control plasma is also tested for the absence of Activated Protein C resistance (Act PC-r). When the APTT is performed with or without Activated Protein C (APC) the ratio obtained (APTT + APC/APTT) is $\geq$ 2.00.

Statement of Technological Characteristics of the Device Compared to Predicate Device:

HEMOCLOT Quanti V-L, BIOPHEN V-L CAL (Undiluted), Factor V-L Calibrator, BIOPHEN Act PC-r Control Plasma, and BIOPHEN Normal Control Plasma are substantially equivalent in performance, intended use and safety and effectiveness to COATEST APC Resistance V (K963111).

Characteristics	**HEMOCLOT Quanti V-L, Factor V-L Calibrator, Biophen V-L CAL (undiluted), Biophen Act PC-r Control Plasma, Biophen Normal Control Plasma**	**COATEST APC Resistance V (K963111). Control Plasmas Level 1 and Level 2 are included in this device.**
	Similarities	
Intended Use	Measurement of Factor V Leiden activity in human citrated plasma by its resistance to the action of Activated Protein C.	Same
Assay Type	Clotting Method	Same
Test Sample	Human Citrated Plasma	Same
Assay Principle	Measurement of Factor V Leiden coagulation activity based on insensitivity of Factor V Leiden to the action of Activated Protein C.	Same
Stability of Unopened Reagents	Stable at 2-8°C until expiry date	Same
Controls, Normal	Citrated human plasma, lyophilized, to provide quality control in the normal range. APC V Ratio > 2.	Same
Controls, Abnormal (APC Resistant)	Citrated human plasma, lyophilized, to provide quality control for APC resistant range of the assay. APC V Ratio ≤ 1.80	Same.
	Differences	
Assay Principle	Assay is performed in the presence of Activated Protein C and Protein S (one single test for each patient). In the presence of APC, prolongation of clotting time is inversely related to the amount of Factor V Leiden. Normal Factor V is not measured. APC resistance due to Factor V Leiden is indicated when the %FVL value is above or equal to the cut-off value.	Assay is performed in the presence and absence of Activated Protein C (two tests for each patient). In the presence of APC, prolongation of clotting time is directly related to the concentration of Normal Factor V, and inversely related to the amount of Factor V Leiden. APC resistance due to Factor V Leiden is indicated when the APC-V ratio is below or equal to the cut-off value.
Assay Calibration	Assay of calibrator plasma at defined Factor V Leiden concentrations. Calibrator plasmas	Not Applicable

	available in prediluted (FVL Calibrator) and undiluted (BIOPHEN V-L Cal) form, lyophilized.	
Cut-Off Values	Normal plasmas measure ≤10% FVL. APCr plasmas measure >25% FVL.	Normal cut-off value (ratio) determined by assay of normal patient plasmas and statistical analysis of the results.
Test Sample Dilution	Test sample diluted in Owren Koller type buffer (not included in kit)..	Test sample diluted with V-Def Plasma (included in kit).
Controls, Normal	Biophen Normal Control Plasma sold separately from kit.	Control Plasma Level 1 included in kit.
Controls, Abnormal (APC Resistant)	Biophen Act. PC-r Control Plasma sold separately from kit.	Control Plasma Level 2 included in kit.
Controls, Normal & Abnormal (APC Resistant)	%FVL < 10% (Normal Control); %FVL between 25% and 75% (APCr Control)	Value of APC-R provided as ratio only.
Stability of Reconstituted Reagents	R1 and R2 reagents: 24 hrs at 2-8° C; 12 hrs at 18-25°C; 1 month frozen at -20°C or below. Control Plasmas and Calibrators: 8 hrs at room temperature; 24h at 2-8°C; Do Not Freeze.	When stored in original vials: V-Def Plasma: 8 hrs at 15-25°C; 24 hrs at 2-8°C; 3 months at -20°C or below. $CaCl_2$ and APTT reagent: 1 month at 2-8°C; 1 week at 15-25°C. APC/$CaCl_2$ reagent: 2 hrs at 37°C; 8 hrs at 15-25° C; 5 days at 2-8°C; 3 months at -20C° or below. Control Plasmas: 6 hrs at 2-25°C or 3 months at -20°C or below.

Summary of Performance Data:

Hemoclot Quanti V-L

The HEMOCLOT Quanti V-L (Hyphen-Biomed) assay shows good consistency with Coatest APCr kit (Chromogenix), as shown from data combined from 4 studies (2 in US, 2 in Europe):

All Sites		Coatest APCr	
		Normal	Abnormal
Hemoclot Quanti V-L	Normal	108	7
	Abnormal	1	70
	Inconclusive*	2	1
Agreement		94.18%	
Co-positivity		97.30%	
Co-negativity		89.74%	
Sample Size		189	

*Outside of the range of the assay, between 10% and 25% FVL.

The Hemoclot Quanti VL Assay shows good consistency with Molecular Biology results:

		Molecular Biology	
		Normal	Abnormal
Hemoclot FVL-Q	Normal	15	0
	Abnormal	0	6
Agreement		100.00%	
Co-positivity		100.00%	
Co-negativity		100.00%	
Sample Size		21	

Reproducibility of the Hemoclot Quanti V-L assay for 2 plasmas at different FVL concentrations, using the KC10, STAR or Water Bath instrument:

Sample	Intra Assay CV%			Inter Assay CV%		
	CT (sec)	%FVL	N	CT (sec)	%FVL	N
Sample 1 (100% FVL)	4.4%	5.9%	10	2.2%	3.3%	10
Sample 2 (50% FVL)	4.2%	8.2%	10	2.3%	4.7%	10

Instrument	Sample	Inter Assay CV%		
		On CT (sec)	On %FVL	N
KC10	Sample 1 (25% FVL)	7.3%	17.4%	5
	Sample 2 (10% FVL)	6%	29.1%	5
STAR	Sample 1 (25% FVL)	5.2%	13.1%	10
	Sample 2 (10% FVL)	5.6%	23.7%	10
WATER BATH	Sample 1 (25% FVL)	2.7%	10.0%	5
	Sample 2 (10% FVL)	5.6%	15.2%	5

Conclusion:

The performance studies demonstrate that the device is substantially equivalent to the predicate device in safety and effectiveness.

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Food and Drug Administration
2098 Gaither Road
Rockville MD 20850

MAY - 8 2009

Aniara Diagnostica, LLC
c/o Ms. Ola Anderson
6560 Gove Ct.
Mason, OH 45040

Re: k083729
Trade/Device Name: HEMOCLOT Quanti V-L, Factor V-L Calibrator, Biophen V-L Cal (Undiluted), Biophen ACT PC-r Control Plasma and Biophen Normal Control
Regulation Number: 21 CFR 864.7925
Regulation Name: Partial thromboplastin time tests
Regulatory Class: Class II
Product Code: GGW, GGN, JIT
Dated: April 07, 2009
Received: April 20, 2009

Dear Ms. Anderson:

We have reviewed your Section 510(k) premarket notification of intent to market the device referenced above and have determined the device is substantially equivalent (for the indications for use stated in the enclosure) to legally marketed predicate devices marketed in interstate commerce prior to May 28, 1976, the enactment date of the Medical Device Amendments, or to devices that have been reclassified in accordance with the provisions of the Federal Food, Drug, and Cosmetic Act (Act) that do not require approval of a premarket approval application (PMA). You may, therefore, market the device, subject to the general controls provisions of the Act. The general controls provisions of the Act include requirements for annual registration, listing of devices, good manufacturing practice, labeling, and prohibitions against misbranding and adulteration.

If your device is classified (see above) into either class II (Special Controls) or class III (PMA), it may be subject to such additional controls. Existing major regulations affecting your device can be found in Title 21, Code of Federal Regulations (CFR), Parts 800 to 895. In addition, FDA may publish further announcements concerning your device in the Federal Register.

Please be advised that FDA's issuance of a substantial equivalence determination does not mean that FDA has made a determination that your device complies with other requirements of the Act or any Federal statutes and regulations administered by other Federal agencies. You must comply with all the Act's requirements, including, but not limited to: registration and listing (21 CFR Part 807); labeling (21 CFR Parts 801 and 809); medical device reporting (reporting of medical device-related adverse events) (21 CFR 803); and good manufacturing practice

requirements as set forth in the quality systems (QS) regulation (21 CFR Part 820). This letter will allow you to begin marketing your device as described in your Section 510(k) premarket notification. The FDA finding of substantial equivalence of your device to a legally marketed predicate device results in a classification for your device and thus, permits your device to proceed to the market.

If you desire specific advice for your device on our labeling regulation (21 CFR Part 801), please contact the Office of *In Vitro* Diagnostic Device Evaluation and Safety at (240) 276-0450. Also, please note the regulation entitled, "Misbranding by reference to premarket notification" (21 CFR Part 807.97). For questions regarding postmarket surveillance, please contact CDRH's Office of Surveillance and Biometric's (OSB's) Division of Postmarket Surveillance at (240) 276-3474. For questions regarding the reporting of device adverse events (Medical Device Reporting (MDR)), please contact the Division of Surveillance Systems at (240) 276-3464. For more information regarding the reporting of adverse events, please go to http://www.fda.gov/cdrh/mdr/.

You may obtain other general information on your responsibilities under the Act from the Division of Small Manufacturers, International and Consumer Assistance at its toll-free number (800) 638-2041 or (240) 276-3150 or at its Internet address http://www.fda.gov/cdrh/industry/support/index.html.

Sincerely yours,

Maria M. Chan, PhD
Director
Division of Immunology and Hematology Devices
Office of In Vitro Diagnostic Device Evaluation and Safety
Center for Devices and Radiological Health

Enclosure

K083729

Indications for Use

HEMOCLOT Quanti VL is an in vitro diagnostic test for the quantitative determination of Factor V Leiden (FVL) activity in human citrated plasma, using automated or manual methods, by its resistance to the action of Activated Protein C (APC).

Patients with the Factor V-L (mutation R506Q), are exposed to an increased thrombotic risk.

Biophen V-L CAL (undiluted), at defined Factor V-Leiden (FV-L) concentrations, for the calibration of Factor V-Leiden activity on human plasma, using the Hemoclot Quanti V-L kit.

Factor V-L Calibrator, pre diluted (1:20) human plasmas. at defined Factor V-Leiden (FV-L) concentrations, for the calibration of Factor V-L activity on human plasma using Hemoclot Quanti V-L Kit.

Biophen Act PC-r Control Plasma contains human plasma, presenting an Activated Protein C Resistance (APC-R) is used as quality control plasma for the testing of Activated Protein C resistance (APC-R) on human plasma using Hemoclot Quanti V-L kit.

(Updated) BIOPHEN Normal Control Plasma is a set of 12 vials of normal citrated human plasma for the quality control of some coagulation factors. The following table shows the various parameters, which are measured using assays from HYPHEN BioMed or from other manufacturers, and according to the package inserts:

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Division Sign-Off

Office of In Vitro Diagnostic Device Evaluation and Safety

510(k) K083729