JUL - 8 2011

510K SUMMARY

ASSAY ONLY TEMPLATE

K110237

A.	**510(k) Number**	TBD
B.	**Purpose for Submission**	Reagent formulation change
C.	**Measurand**	Factor VIII Activity
D.	**Type of Test**	Factor VIII Activity Test, based on activated partial thromboplastin time (APTT)
E.	**Applicant**	Instrumentation Laboratory Co.
F.	**Proprietary & Established Names**	HemosIL® Factor VIII deficient plasma

G. Regulatory Information

1.	*Regulation section:*	21CFR §864.7290
2.	*Classification:*	Class II
3.	*Product code:*	GJT
4.	*Device classification name:*	Plasma, Coagulation Factor Deficient
5.	*Panel:*	Clinical Chemistry

H. Intended Use

1. *Intended use(s):*

   HemosIL Factor VIII deficient plasma is human plasma, depleted of Factor VIII, which is intended for the in vitro diagnostic quantitative determination of Factor VIII activity in citrated plasma, based on the activated partial thromboplastin time (APTT) assay, on the ACL TOP® Family analyzers. HemosIL Factor VIII deficient plasma is indicated for use on patients who are suspected of congenital or acquired deficiency based on the activated partial thromboplastin time (APTT) assay results.

2. *Indication(s) for use:*

   Same as intended use.

3. *Special conditions for use statement(s):*

   For *in-vitro* diagnostic use only. For prescription use.

4. *Special instrument requirements:*

   ACL TOP® Family analyzers

I. Device Description

The assay determines the functional activity of Factor VIII by measuring the degree of prolongation of activated partial thromboplastin time in the presence of a contact activator, thromboplastin, phospholipids and calcium ions. Factor VIII activity is correlated with the prolongation of the clotting time of the Factor VIII deficient plasma to which diluted patient sample has been added.

J. Substantial Equivalence Information:

1.	*Predicate device name(s):*	HemosIL Factor VIII deficient plasma (same name)
2.	*Predicate 510(k) number(s):*	K034007

3. *Comparison with predicate:*

Similarities

The applicant, HemosIL Factor VIII deficient plasma (PN 00020012800) is substantially equivalent to its predicate, the HemosIL Factor VIII deficient plasma (K034007).

Table of similarities:

Item	*Predicate Device*	*Applicant*
K#	K034007	TBD
Device Name	HemosIL Factor VIII deficient plasma	Same
Manufacturer	Instrumentation Laboratory Co. (self)	Same
Indications for Use	HemosIL Factor VIII deficient plasma is human plasma depleted of Factor VIII and intended for the *in vitro* diagnostic quantitative determination of Factor VIII activity in citrated plasma, based on the activated partial thromboplastin time (APTT) assay, on the ACL TOP® Family analyzers.	Same
Sample Type	Citrated plasma	Same
Test Principle	Functional clotting assay	Same
Methodology	Abnormalities of the intrinsic pathway factors are determined by performing a modified activated partial thromboplastin time (APTT) test. Patient plasma is diluted and added to plasma that is deficient in Factor VIII. Correction of the clotting time of the deficient plasma is proportional to the concentration (% activity) of the Factor VIII in the patient plasma, interpolated from a calibration curve.	Same
Calibration	HemosIL Calibration plasma values are assigned for Factor VIII Activity and used to calibrate the standard curve.	Same
Kit Composition	Lyophilized human plasma deficient in Factor VIII.	Same

Differences

The difference between the 2 products; the applicant HemosIL Factor VIII deficient plasma and its predicate, is that the applicant contains normal levels of von Willebrand factor, whereas the predicate is deficient not only in Factor VIII but also in von Willebrand Factor. The test results demonstrate that this change does not adversely affect the product's performance.

K. Standard/Guidance Document Referenced (if applicable):

No performance standard or FDA guidance has been established for FVIII deficient plasma.

L. Test Principle

Correction of the clotting time of the deficient plasma is proportional to the concentration (% activity) of the factor VIII in the patient plasma, interpolated from a calibration curve.

M. Performance Characteristics

1. *Analytical performance:*

a. *Precision/Reproducibility*

Precision was assessed utilizing 3 lots of plasma on representative members of the ACL TOP Family (ACL TOP base, ACL TOP 700 and ACL TOP 500 CTS). Precision was evaluated in accordance with CLSI EP05-A2, for 20 days, with 2 runs per day and 2 replicates per run for each sample level (n=80/ instrument/ lot), using a specific lot of APTT reagent (APTT-SP and SynthASil) and both normal and abnormal samples. Test data from a representative instrument, APTT reagent and plasma lot is included below:

Instrument	Control Level	N	Mean FVIII (%)	Within Run CV%	Total CV%
Controls with SynthASil					
ACL TOP 500 CTS	Normal Control	80	80.3	3.8	3.9
	STC Level 2	80	23.8	4.0	5.5
	Low Control I	80	12.1	3.7	5.2
	Low Control II	80	6.8	4.1	6.4

b. *Linearity/assay reportable range:*

Linearity:

The Factor VIII activities of a high sample (level 1) and an intermediate sample (level 2) were determined from the respective means of 8 replicates, using the Factor VIII deficient plasma predicate. These two samples, together with HemosIL® Factor VIII deficient plasma (PN 00020012800), were used to setup samples with Factor VIII activities ranging from <1% to >150%.

All Factor VIII samples were run in 4 replicates, using Factor VIII deficient plasma (PN0020012800) as a substrate, on the ACL TOP with the two reagent lots, and the average activities for all the samples were plotted against their assigned values. The results demonstrated that the Factor VIII assay is linear, with the HemosIL® Factor VIII deficient plasma (PN0020012800) as a substrate, up to 150% activity on the ACL TOP Family.

Instrument	FVIIIDP	Reagent	Slope	Intercept	R^2
ACL TOP	Lot 1	SynthASil	0.971	0.528	0.995
		APTT SP	1.045	2.261	0.997
ACL TOP 500 CTS	Lot 2	SynthASil	1.040	-0.526	0.998
		APTT SP	0.964	-1.621	0.996

Analytical Range:

<u>System</u>

ACL TOP Family with SynthASil 0.1 – 150%

ACL TOP Family with APTT-SP 0.5 – 150%

c. *Traceability, Stability, Expected values (controls, calibrators, or methods):*

Based on the accelerated stability study, which projects 3 years of shelf life, a shelf life of 12 months is claimed for the product when stored at 2-8°C. Real-time stability testing is ongoing, and will be used to update the shelf life as more data becomes available.

d. *Interference Study:*
Factor VIII results on the ACL TOP Family are not affected by hemoglobin up to 530 mg/dL, triglycerides up to 2000 mg/dL, bilirubin up to 150 mg/dL, and Factor VIII inhibitors up to 0.1BU. Results are not affected by the presence of Lupus anticoagulant antibodies.

e. *Detection limit:*
Not Applicable

f. *Analytical specificity:*
Not Applicable

g. *Assay cut-off:*
Not Applicable

2. *Comparison studies:*

a. *Method comparison with predicate device:*

In-House Study

An in-house method comparison study was performed to compare the performance of the new Factor VIII deficient plasma with its predicate.

The Deming regression analysis for the ACL TOP shows that the slope and correlation coefficient (r) are 1.064 and 0.9885 respectively, with the SynthASil reagent, and 0.893 and 0.9884 respectively, with the APTT-SP reagent.

The Deming regression analysis for the ACL TOP 500 CTS shows that the slope and correlation coefficient (r) are 1.112 and 0.9923 respectively, with the SynthASil reagent, and 0.913 and 0.9926 respectively, with the APTT-SP reagent.

The above results satisfy the product specifications for method comparison and demonstrate comparable performance is achieved for the 2 reagents.

Reagent	Instrument	N	Slope	Intercept	R
SynthASil	ACL TOP 500 CTS	90	1.112	-3.57	0.9923
APTT SP	ACL TOP 500 CTS	90	0.913	0.56	0.9926

Field Site Study

A field site study was conducted at 2 US sites and one OUS site, comparing the new Factor VIII depleted plasma with its predicate. Both normal and abnormal samples were tested on an ACL TOP analyzer. The results showed a correlation (R) >0.9829 and a slope of 0.871-1.138 indicating that the performance of the two tests is statistically similar.

Within Lin. Range (1st Replicate)	OUS	US #1	US #2
Slope	1.074	0.871	1.138
Intercept	-4.83	-0.25	-9.31
Correlation coefficient (R)	0.9829	0.9935	0.9842
n	109	125	102

b. *Matrix comparison:* NA

3. *Clinical studies:*

   a. *Clinical Sensitivity:* NA
   b. *Clinical Specificity:* NA
   c. *Other clinical supportive data (when a. and b. are not applicable):* NA

4. *Clinical cut-off:* NA

5. *Expected values/Reference range*:*

   Factor VIII: 50-150% (0.50-1.50 IU)

   *Due to the many variables which may affect clotting times (including the population age), each laboratory should establish its own normal range.

N. Proposed Labeling

The labeling is sufficient and satisfies the requirements of 21 CFR Part 809.10.

O. Conclusion

The submitted information in this premarket notification is complete and supports a substantial equivalence decision.

P. Administrative Information

Applicant Contact Information

Name of applicant:	Instrumentation Laboratory Co.
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Contact:	Jacqueline Emery, BSEE Regulatory Affairs Manager
Date Prepared	July 5, 2011

DEPARTMENT OF HEALTH & HUMAN SERVICES Public Health Service

Food and Drug Administration
10903 New Hampshire Avenue
Document Mail Center-WO66-G609
Silver Spring, MD 20993-0002

Instrumentation Laboratory Co.
c/o Ms. Jacqueline Emery
Regulatory Affairs Manager
180 Hartwell Rd.
Bedford, MA 01730

JUL 0 8 2011

Re: k110237
Trade/Device Name: HemosIL® Factor VIII Deficient Plasma
Regulation Number: 21 CFR 864.7290
Regulation Name: Factor deficiency test
Regulatory Class: Class II
Product Code: GJT
Dated: June 27, 2011
Received: June 29, 2011

Dear Ms. Emery,

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 class II (Special Controls), 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 Parts 801 and 809), please contact the Office of *In Vitro* Diagnostic Device Evaluation and Safety at (301) 796-5450. Also, please note the regulation entitled, "Misbranding by reference to premarket notification" (21 CFR Part 807.97). For questions regarding the reporting of adverse events under the MDR regulation (21 CFR Part 803), please go to http://www.fda.gov/MedicalDevices/Safety/ReportaProblem/default.htm for the CDRH's Office of Surveillance and Biometrics/Division of Postmarket Surveillance.

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 (301) 796-7100 or at its Internet address http://www.fda.gov/cdrh/industry/support/index.html.

Sincerely yours,

Leena Philip

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

Enclosure

Indications for Use Statement

510(k) Number (if known): K110237

Device Name: HemosIL® Factor VIII deficient plasma

Indications for Use:

HemosIL Factor VIII deficient plasma is human plasma, depleted of Factor VIII, which is intended for the in vitro diagnostic quantitative determination of Factor VIII activity in citrated plasma, based on the activated partial thromboplastin time (APTT) assay, on the ACL TOP® Family analyzers. HemosIL Factor VIII deficient plasma is indicated for use on patients who are suspected of congenital or acquired deficiency based on the activated partial thromboplastin time (APTT) assay results.

Prescription Use ✓ (Part 21 CFR 801 Subpart D) AND/OR Over-The-Counter Use _____ (21 CFR 801 Subpart C)

(PLEASE DO NOT WRITE BELOW THIS LINE - CONTINUE ON ANOTHER PAGE IF NEEDED)

Concurrence of CDRH, Office of In Vitro Diagnostic Devices (OIVD)

Division Sign-Off
Office of In Vitro Diagnostic Device
Evaluation and Safety

510(k) K110237