K 053603

FEB 9 2006

510(k) Summary

Introduction

According to the requirements of 21 CFR 807.92, the following information provides sufficient detail to understand the basis for a determination of substantial equivalence.

Submitter name, address, contact

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Contact Person: Theresa M. Ambrose

Date Prepared: January 18, 2006

Device Name

Proprietary name: C-Reactive Protein (Latex) High Sensitive test system for COBAS Integra instruments [CRP (latex) HS]

Common name: hsCRP test system

Classification name: Cardiac C-reactive Protein, Antigen, Antiserum, and Control

Predicate devices

The CRP (latex) HS Test System for COBAS Integra instruments is substantially equivalent to the currently marketed Roche Tina-quant® CRP (latex) HS Test System cleared under K042485. For purposes of cardiac risk assessment, the CRP (latex) HS system is also equivalent to the Dade Behring N High Sensitivity CRP (K033908)

Device Description

The CRP (latex) HS Test System is a latex particle-enhanced immunoturbidimetric test for the quantitative measurement of C-reactive protein in human serum or plasma. Human CRP agglutinates with latex particles coated with monoclonal anti-CRP antibodies. The precipitate is determined turbidimetrically. The calibrator is the Calibrator for automated systems (C.f.a.s). Proteins; and the recommended control materials are CRP T Control N and Precinorm Protein.

510(k) Summary, **Continued**

Intended use	The CRP (Latex) High Sensitive Immmunoturbidimetric assay is for the in vitro quantitative determination of C-reactive protein (CRP) in human serum and plasma on Roche automated clinical chemistry analyzers. Measurement of CRP is of use for the detection and evaluation of inflammatory disorders and associated diseases, infection and tissue injury. Highly sensitive measurement of CRP may also be used as an aid in the assessment of the risk of future coronary heart disease. When used as an adjunct to other laboratory evaluation methods of acute coronary syndromes, it may also be an additional independent indicator of recurrent event prognosis in patients with stable coronary disease or acute coronary syndrome.
Comparison to predicate device	The below table compares the CRP (Latex) HS for COBAS Integra instruments with the predicate device, Tina-Quant® CRP (Latex) HS (K042485)

Substantial equivalence: comparison table

Characteristic	CRP (Latex) HS for COBAS Integra instruments	Predicate device Tina-Quant® CRP (Latex) HS (K042485)	Predicate device
Intended Use/ Indications for Use	Same as K042485	The Tina-quant® CRP (Latex) High Sensitive Immmunoturbidimetric assay is for the in vitro quantitative determination of C-reactive protein (CRP) in human serum and plasma on Roche automated clinical chemistry analyzers. Highly sensitive measurement of CRP is of use for the detection and evaluation of inflammatory disorders and associated diseases, infection and tissue injury. Measurement of CRP may also be used as an aid in the assessment of the risk of future coronary heart disease. When used as an adjunct to other laboratory evaluation methods of acute coronary syndromes, it may also be an additional independent indicator of recurrent event prognosis in patients with stable coronary disease or acute coronary syndrome..	N *High Sensitivity* CRP is an in vitro diagnostic reagent for the quantitative determination of C-reactive protein (CRP) in human serum, and heparin and EDTA plasma by means of particle-enhanced immunonephelometry using BN Systems. In acute phase response, increased levels of a number of plasma proteins, including C-reactive protein, are observed. Measurement of CRP is useful for the detection and evaluation of infection, tissue injury, inflammatory disorders, and associated diseases. Measurements may also be used as an aid in the identification of individuals at risk for future cardiovascular disease. High sensitivity CRP (hsCRP) measurements, when used in conjunction with traditional clinical laboratory evaluation of acute coronary syndromes, may be useful as an independent marker of prognosis for recurrent events, in patients with stable coronary disease or acute coronary syndromes

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Predicate devices (continued)

Characteristic	CRP (Latex) HS for COBAS Integra instruments	Predicate device Tina-Quant® CRP (Latex) HS (K042485)	Predicate device Dade-Behring N High Sensitivity CRP (K033908)
Assay principle	Same as K042485	Latex particle-enhanced immunoturbidimetric test	Particle-enhanced agglutination with nephelometric detection
Instrument	COBAS Integra family of analyzers (Integra 400/ 700/ 800)	Roche/Hitachi family of analyzers	Dade-Behring BN Systems (nepholometric systems)
Reagent Stability	• Unopened kit: up to the stated expiration date at 2-8 °C • On board the analyzer (opened and refrigerated): 12 weeks	• Unopened kit: up to the stated expiration date at 2-8 °C • On board the analyzer (opened and refrigerated): 90 days	• Unopened kit: up to the stated expiration date at 2-8 °C • Opened: 4 weeks at stored in closed vial. Do not freeze
Reagent composition	Same active ingredients and antibody as K042485	R1: TRIS buffer with bovine serum albumin, immunoglobulins (mouse), preservative, stabilizers R2: Latex particles coated with anti-CRP (mouse) in glycine buffer; preservatives; stabilizers	Suspension of polystyrene particles coated with mouse monoclonal antibodies to CRP; preservatives
Sample type	Same as K042485	Human serum and plasma	Human serum, and heparin and EDTA plasma
Traceability/ standardization	Standardized to Tina-Quant® CRP (Latex) HS which is standardized to reference preparation CRM 470 (RPPHS 91/0619) (same as both predicates)	IFCC/BCR/CAP reference preparation CRM 470 (RPPHS 91/0619)	IFCC/BCR/CAP reference preparation CRM 470 (RPPHS 91/0619)

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Predicate devices (continued)

Characteristic	CRP (Latex) HS for COBAS Integra instruments	Predicate device Tina-Quant® CRP (Latex) HS (K042485)	Predicate device Dade-Behring N High Sensitivity CRP (K033908)
Measuring range	0-20 mg/L without dilution 0-300 mg/L with postdilution	0.1 – 20 mg/l without dilution 0.1 -300 mg/l extended range with dilution and rerun	0.175 – 1100 mg/L with dilution
Lower Detection Limit	0.1 mg/L	0.03 mg/L	0.175 mg/L
Within-run precision (%CV)	Control material • 0.9% at 3.3 mg/L • 0.7% at 8.0 mg/L Human serum • 1.3% at 1.6 mg/L • 0.6% at 11.4 mg/L	Control material • 0.43% at 4.27 mg/L • 0.41% at 11.62 mg/L Human serum • 1.34% at 0.55 mg/L • 0.28% at 12.36 mg/L	• 2.5 % at 0.5 mg/L • 3.8 % at 1.3 mg/L • 2.1 % at 2.1 mg/L • 2.6 % at 14 mg/L • 3.9 % at 24 mg/L • 5.7% at 56 mg/L
Between-run precision (%CV)	Control material • 3.5% at 3.3 mg/L • 2.2% at 8.0 mg/L Human serum • 3.1% at 1.5 mg/L • 2.3% at 11.4 mg/L	Control material • 2.70 % at 4.34 mg/L • 3.45% at 11.90 mg/L Human serum • 5.70% at 0.52 mg/L • 2.51% at 10.98 mg/L	• 3.1 % at 0.5 mg/L • 3.8 % at 1.1 mg/L • 3.4 % at 2.1 mg/L • 4.0 % at 15 mg/L • 2.3 % at 26 mg/L • 4.4% at 62 mg/L

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Predicate devices (continued)

Characteristic	CRP (Latex) HS for COBAS Integra instruments	Predicate device Tina-Quant® CRP (Latex) HS (K042485)	Predicate device Dade-Behring N High Sensitivity CRP (K033908)
Functional Sensitivity (CV < 10%)	0.3 mg/L	0.11 mg/L	Not available.
Limitations: interferences	No significant interference up to • 10 g/L bilirubin • 0.6 g/L hemoglobin • 5 g/L triglyceride at 2 mg/L CRP • Rheumatoid factors < 1200 IU/mL No high dose hook effect up to 1000 mg/L CRP In rare cases, monoclonal gammopathy may lead to false CRP values . Erroneous results may be obtained in samples taked from patients who have been treated with monoclonoal mouse antibodies	No significant interference up to • I index of 60 (60 mg/dL bilirubin) • H index of 1000 (1000 mg/dL hemoglobin) • L index of 1000 at CRP > 5mg/L (lipemia; intralipid) • L index of 800 at CRP > 4mg/L • L index of 500 at CRP > 2 mg/L • Rheumatoid factors < 1200 IU/mL No high dose hook effect up to 1000 mg/L In rare cases, gammopathy, in particular IgM Waldenstrom's macroglobinemia may cause unreliable results	No interference from • Bilirubin up to 230 mg/L • Hemoglobin up to 36 g/L • Triglycerides up to 7.4 g/L Highly lipemic samples that cannot be clarified by centrifugation (10 min at 15000 X G) must not be tested. Particles that are formed in incompletely clotted serum or plasma or due to protein denaturation must be removed by centrifugation prior to testing.

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Predicate devices (continued)

Characteristic	CRP (Latex) HS for COBAS Integra instruments	Predicate device Tina-Quant® CRP (Latex) HS (K042485)	Predicate device Dade-Behring N High Sensitivity CRP (K033908)
Result Interpretation	Same as K042485	For diagnostic purposes, results should always be assessed in conjunction with the patient's medical history and other findings. Increases in CRP values are non-specific and should not be interpreted without a complete clinical history. When using CRP to assess the risk of coronary heart disease, measurements should be made on metabolically stable patients and compared to previous values. Optimally, the average of hsCRP results repeated two weeks apart should be used for risk assessment. Measurements should be compared to previous values. For risk assessment persistently unexplained values about 10 mg/L should be evaluated for non-cardiovascular origins. Testing for risk assessment should not be performed while there is indications of infection, systemic inflammation, or trauma.	Increases in CRP values are non-specific and should not be interpreted without a complete clinical history.

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Predicate devices (continued)

Characteristic	CRP (Latex) HS for COBAS Integra instruments	Predicate device Tina-Quant® CRP (Latex) HS (K042485)	Predicate device Dade-Behring N High Sensitivity CRP (K033908)
Expected values	Same as K042485	Adults: < 5.0 mg/L Neonates 0-3 weeks: 0.1 – 4.1 mg/L Children (2 months-15 years) 0.1 – 2.8 mg/L For CVD risk assessment: relative risk Low < 1 mg/L Average 1.0-3.0 mg/L High >3.0 mg/L	Relative risk/average hsCRP: Low < 1 mg/L Average 1.0-3.0 mg/L High >3.0 mg/L
Method comparison	y = Integra CRP (Latex) hs x = Tina-Quant® CRP (latex) hs Passing-Bablok results: y=1.0548x + 0.0424. T = 0.956; r = 0.996 (range up tp 20 mg/L)		y= Integra CRP (latex) hs x= Dade-Behring N High Sensitivity CRP

Performance evaluation

Analytical validation experiments were performed in order to establish the performance characteristics. A method comparison was performed between this method and the predicate device.

The new test system has similar imprecision, known interferences, comparable standards and calibrators, and is comparable in absolute values to the predicate devices, which are cleared for indications including cardiac risk assessment. Additional clinical studies should not be required. In further support of the cardiac indication, literature references and bridging information are provided.

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Food and Drug Administration
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FEB 9 2006

Re: k053603
Trade/Device Name: C-Reactive Protein (Latex) High Sensitive Test System For Cobas Integra Instruments
Regulation Number: 21 CFR§866.5270
Regulation Name: C-reactive protein immunological test system
Regulatory Class: Class II
Product Code: NQD
Dated: December 22, 2005
Received: December 23, 2005

Dear Ms. Ambrose:

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); 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 information about the application of labeling requirements to your device, or questions on the promotion and advertising of your device, please contact the Office of In Vitro Diagnostic Device Evaluation and Safety at (240) 276-0484. Also, please note the regulation entitled, "Misbranding by reference to premarket notification" (21CFR Part 807.97). 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) 443-6597 or at its Internet address http://www.fda.gov/cdrh/industry/support/index.html.

Sincerely yours,

Alberto Gutierrez, Ph.D.
Director
Division of Chemistry and Toxicology
Office of In Vitro Diagnostic Device
Evaluation and Safety
Center for Devices and
Radiological Health

Enclosure

Indications for Use

510(k) Number (if known): K053603

Device Name: C-Reactive Protein (Latex) High Sensitive Test System For Cobas Integra Instruments

Indications For Use:

The CRP (Latex) High Sensitive Immunoturbidimetric assay is for the in vitro quantitative determination of C-reactive protein (CRP) in human serum and plasma on Roche automated clinical chemistry analyzers. Measurement of CRP is of use for the detection and evaluation of inflammatory disorders and associated diseases, infection and tissue injury. Highly sensitive measurement of CRP may also be used as an aid in the assessment of the risk of future coronary heart disease. When used as an adjunct to other laboratory evaluation methods of acute coronary syndromes, it may also be an additional independent indicator of recurrent event prognosis in patients with stable coronary disease or acute coronary syndrome.

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

Ann Chazzio
Division Sign-Off

Office of In Vitro Diagnostic Device
Evaluation and Safety

510(k) K053603