SEP 1 1 2008

510(k) Summary K081338

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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Date Prepared: May 9, 2008

Device Name

Proprietary name: (1) Elecsys Anti-CCP Immunoassay
(2) Elecsys PreciControl CCP

Common name: (1) Anti-CCP Assay
(2) PreciControl Anti-CCP

Classification name: (1) Antibodies, Anti-Cyclic Citrullinated Peptide
(2) Single (specified) analyte controls (Assayed and Unassayed)

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510(k) Summary, Continued

Device Description

(1) The Elecsys Anti-CCP immunoassay is a two step IgG-capture test principle immunoassay with streptavidin-coated microparticles and electrochemiluminescence detection. Results are determined using a calibration curve that is generated specifically on each instrument by a 2 point calibration and a master curve provided with the reagent bar code.

- The Elecsys Anti-CCP reagent kit consists of a Reagent Pack (R1, R2 and M[streptavidin-coated microparticles]) and lyophilized calibrators 1 and 2.

(2) The Elecsys PreciControl Anti-CCP is a lyophilized product consisting of human serum with added Anti-CCP antibody (human) in two concentration ranges. During manufacture, the antibody is spiked into the matrix at the desired concentration levels.

Note: The reagent is packaged with calibrators; controls are packaged separately.

Intended use / Indications for Use

(1) Elecsys Anti-CCP immunoassay: Immunoassay for the in vitro semi-quantitative determination of human IgG autoantibodies to cyclic citrullinated peptides in human serum and plasma. The results of the assay are intended to be used as an aid in the diagnosis of rheumatoid arthritis in combination with other clinical and laboratory findings.
The **electrochemiluminescence immunoassay** "ECLIA" is intended for use on Elecsys and **cobas e** immunoassay analyzers.

(2) Elecsys PreciControl Anti-CCP is used for quality control of the Elecsys Anti-CCP immunoassay on the Elecsys and **cobas e** immunoassay analyzers.

Substantial equivalence

The Elecsys Anti-CCP Test System is substantially equivalent to other devices legally marketed in the United States.

(1) Elecsys Anti-CCP Immunoassay is equivalent to the Eurodiagnostica IMMUNOSCAN RA Anti-CCP Test Kit (K052133). Both products are intended for use in the semi-quantitative determination of human IgG antibodies to cyclic citrullinated peptides in human serum.

(2) Elecsys PreciControl Anti-CCP is equivalent to the controls contained in the Eurodiagnostica IMMUNOSCAN RA Anti-CCP Test Kit (K052133).

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Substantial equivalence - comparison

The following table compares the Elecsys Anti-CCP Immunoassay with the predicate device.

Immunoassay Comparison		
Feature	**Elecsys Anti-CCP Assay**	**Predicate Device Eurodiagnostica IMMUNOSCAN RA Anti-CCP Test Kit (K052133)**
Intended Use / Indication for Use	Immunoassay for the in vitro semi-quantitative determination of human IgG autoantibodies to cyclic citrullinated peptides in human serum and plasma. The results of the assay are intended to be used as an aid in the diagnosis of rheumatoid arthritis in combination with other clinical and laboratory findings. The **electrochemiluminescence immunoassay** "ECLIA" is intended for use on Elecsys and **cobas e** immunoassay analyzers.	The Immunoscan RA anti-CCP test kit is an enzyme-linked immunosorbent assay (ELISA) for detection and semi-quantitation of IgG antibodies to Cyclic Citrullinated Peptides (CCP) in human sera. The assay is used to detect antibodies in a single serum specimen. The results of the assay are to be used as an aid to the diagnosis of Rheumatoid Arthritis (RA), in conjunction with other laboratory and clinical findings. The analysis should be performed by trained laboratory professionals.
Assay Protocol	IgG-capture test principle	ELISA – IgG adsorption
Detection Protocol	**electrochemiluminescence immunoassay** (ECLIA)	photometric
Traceability/ Standardization	Standardized against a commercially available anti-CCP assay	Not given
Calibration Interval	• After 1 month (28 days) when using the same reagent lot • After 7 days (when using the same reagent kit on the analyzer) • As required: e.g. quality control findings outside the specified limits	Calibrate with each test
Sample Type	Human serum and plasma	Human serum

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Substantial equivalence - comparison

The following table compares the Elecsys Anti-CCP Immunoassay with the predicate device.

Immunoassay Comparison, continued		
Feature	**Elecsys Anti-CCP Assay**	**Predicate Device Eurodiagnostica IMMUNOSCAN RA Anti-CCP Test Kit (K052133)**

Reagent Stability	• Unopened up to the stated expiration date stored at 2 – 8°C
	• On all analyzers:
	  • 1 week or
	  • maximum of 40 hours on the analyzer; up to 4 weeks when stored alternately in the refrigerator and on the analyzer.
		Store kit at 2 – 8°C in a dark place up to stated expiration date.

Calibrator	Anti-CCP calibrators 1 and 2 supplied with kit	Five levels of calibrators supplied with kit
Controls	Elecsys PreciControl Anti-CCP 1 and 2	Reference, positive, and negative controls supplied with kit
Expected Values	Positive: ≥ 17 U/mL	Negative: < 25 U/mL Positive: ≥ 25 U/mL
Instrument	Elecsys 2010, MODULAR ANALYTICS E170, **cobas e** 411, **cobas e** 601	spectrophotometer
Measuring Range	8 – 1000 U/mL (defined by the limit of detection and the maximum of the master curve)	1.6 – 1600 U/mL

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Substantial equivalence - comparison

The following table compares the performance of Elecsys Anti-CCP Immunoassay with the predicate device.

Immunoassay Performance Comparison		
Feature	**Elecsys Anti-CCP Assay**	**Predicate Device Eurodiagnostica IMMUNOSCAN RA Anti-CCP Test Kit (K052133)**
Precision	**Elecsys 2010 and cobas e 411:** **Total** 3.1% CV @ 16.9 U/mL 4.5% CV @ 356 U/mL 3.0% CV @ 24.6 U/mL 2.5% CV @ 137 U/mL **Within-run** 0.6% CV @ 16.9 U/mL 2.3% CV @ 356 U/mL 1.0% CV @ 24.6 U/mL 1.4% CV @ 137 U/mL	**Intra-assay Precision:** 12.8%CV @ 1007.4 U/mL 6.5% CV @ 240.1 U/mL 7.0%CV @ 95.7 U/mL 8.4% CV @ 51.7 U/mL 8.1% CV @ 33.6 U/mL 4.3% CV @ 88.1 U/mL **Inter-assay Precision**: 11.7% CV @ 1105.9 U/mL 7.9% CV @ 257.4 U/mL 6.0% CV @ 93.1 U/mL 7.8% CV @ 52.5 U/mL 14.5% CV @ 33.3 U/mL 17.7% CV @ 94.9 U/mL

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Substantial equivalence - comparison

The following table compares the performance of Elecsys Anti-CCP Immunoassay with the predicate device.

Immunoassay Performance Comparison, continued		
Feature	**Elecsys Anti-CCP Assay**	**Predicate Device Eurodiagnostica IMMUNOSCAN RA Anti-CCP Test Kit (K052133)**
LoQ (Functional Sensitivity)	8 U/mL	N/A
Limit of Blank (LoB)	≤ 7 U/mL	N/A
Limit of Detection LoD (Analytical Sensitivity)	≤ 8 U/mL	N/A
LDL (Lower Detection Limit)	N/A	1.6 U/mL
Limitations	The assay is unaffected by: • Bilirubin: < 25 mg/dL • Hemoglobin: < 0.5 g/dL • Intralipid: < 1500 mg/dL • Biotin: < 30 ng/mL • In patients receiving therapy with high biotin doses (i.e. >5 mg/day), no sample should be taken until at least 8 hours after the last biotin administration. • Interference was observed from Rheumatoid factor above concentrations of 150 IU/mL.	The assay is unaffected by: • Bilirubin: ≤ 0.2 mg/mL • Hemoglobin: ≤ 400 mg/dL • Lipid: ≤ 15 mg/mL • Rheumatoid factor: ≤ 200 IU/mL

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Substantial equivalence - comparison

The following table compares the performance of Elecsys Anti-CCP Immunoassay with the predicate device.

Immunoassay Performance Comparison, continued		
Feature	**Elecsys Anti-CCP Assay**	**Predicate Device Eurodiagnostica IMMUNOSCAN RA Anti-CCP Test Kit (K052133)**
Limitations, continued	• Interference with pathologic levels of unspecific IgG can not be excluded. However, the coincidence of RA and gammopathy in one patient has been reported to be very low. • The anti-CCP test results can be false negative in patients with hypergammaglobulinaemia. Results from patients suffering from this disorder should not be used for diagnostic purposes. • In vitro tests were performed on 18 commonly used pharmaceuticals and in addition on methrotrexate and prednisolone. No interference with the assay was found. • As with all tests containing monoclonal mouse antibodies, erroneous findings may be obtained from samples taken from patients who have been treated with monoclonal mouse antibodies or have received them for diagnostic purposes.	

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Substantial equivalence - comparison

The following table compares the performance of Elecsys Anti-CCP Immunoassay with the predicate device.

Immunoassay Performance Comparison, continued		
Feature	**Elecsys Anti-CCP Assay**	**Predicate Device Eurodiagnostica IMMUNOSCAN RA Anti-CCP Test Kit (K052133)**
Limitations, continued	• The risk of interference from potential immunological interactions between test components and rare sera has been minimized by the inclusion of suitable additives. • In rare cases, interference due to extremely high titers of antibodies to streptavidin and ruthenium can occur. The test contains additives which minimize these effects. • For diagnostic purposes, the results should always be assessed in conjunction with the patient's medical history, clinical examination and other findings.	

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Substantial equivalence - comparison

The following table compares the performance of Elecsys Anti-CCP Immunoassay with the predicate device.

Immunoassay Performance Comparison, continued

Feature	Elecsys Anti-CCP Assay	Predicate Device Eurodiagnostica IMMUNOSCAN RA Anti-CCP Test Kit (K052133)
Method Comparison	Elecsys Anti-CCP was compared anti-CCP microtiter plate ELISA assay (IMMUNOSCAN RA Anti-CCP test kit). 1606 samples tested using a cut-off of ≥ 17 U/mL for the Elecsys Anti-CCP assay. N=1606 / Immunoscan Anti-CCP: + / - / Total Elecsys Anti-CCP: + 428 / 18 / 446; - 26 / 1134 / 1160; total 454 / 1152 / 1606 Positive Percent Agreement = 94.3% (95% CI = 91.7 – 96.2) Negative Percent Agreement = 98.4% (95% CI = 97.5 – 99.1) Total Percent Agreement = 97.3% (95% CI = 96.3 – 98.0)	Percent agreement of the Immunoscan RA CCP kit compared to an alternative CCP ELISA: A total of 320 frozen retrospective sera were assayed. 175 samples were from RA patients and 145 samples were normals from a blood bank. The following table summarizes the results. Alternative ELISA Immuno-scan RA CCP Kit: Positive 135 / 6 / 141; Negative 1 / 178 / 179; Total 136 / 184 / 320 Positive Percent Agreement = 99.3% (95% CI = 93.2 – 100%) Negative Percent Agreement = 96.7% (95% CI = 81.6 – 99.9%) Overall Percent Agreement = 97.8% (95% CI = 93.2 – 100%) The 95% confidence interval (CI) was calculated using the exact method.
Hook Effect	No high-dose hook effect at anti-CCP concentrations up to 7000 U/mL	Not given.

Substantial equivalence - comparison

The following table compares the calibrators supplied with the Elecsys Anti-CCP immunoassay kit with the calibrators supplied with the predicate device.

Calibrator Comparison		
Feature	**Elecsys Anti-CCP Assay**	**Predicate Device Eurodiagnostica IMMUNOSCAN RA Anti-CCP Test Kit (K052133)**
Levels	2	5
Format	Lyophilized	Liquid
Matrix	human serum	same
Analyte Concentration (Anti-CCP antibodies; human)	Calibrator 1: 20 U/mL Calibrator 2: 200 U/mL	Calibrator A: 1600 U/mL Calibrator B: 800 U/mL Calibrator C: 200 U/mL Calibrator D: 50 U/mL Calibrator E: 25 U/mL
Stability	Unopened: • Until expiration date. Reconstituted: • On the analyzers at 20 – 25°C: up to 2 hours • At -20°C: up to 4 weeks (freeze only once). • After thawing: use only once.	N/A

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Substantial equivalence - comparison

The following table compares the calibrators supplied with the Elecsys Anti-CCP immunoassay kit with the calibrators supplied with the predicate device.

Calibrator Comparison, continued		
Feature	**Elecsys Anti-CCP Assay**	**Predicate Device Eurodiagnostica IMMUNOSCAN RA Anti-CCP Test Kit (K052133)**
Handling	Dissolve carefully the contents of one bottle by adding exactly 1.0 mL of distilled water and allow to stand closed for 15 minutes to reconstitute. Mix carefully, avoiding the formation of foam. Transfer the reconstituted calibrator into the empty labeled snap-cap bottles supplied (CalSet Vials). Attach the supplied labels to the additional bottles. Store the aliquots immediately at -20°C. Perform **only one** calibration procedure per aliquot. All information required for correct operation is read in via the respective reagent barcode.	N/A

Substantial equivalence - comparison

The following table compares the Elecsys PreciControl Anti-CCP with the controls supplied with the predicate device.

Control Comparison		
Characteristic	**Elecsys PreciControl Anti-CCP**	**Predicate Device Eurodiagnostica IMMUNOSCAN RA Anti-CCP Test Kit (K052133)**
Intended Use	Used for quality control of the Elecsys Anti-CCP immunoassay on the Elecsys and **cobas e** immunoassay analyzers.	N/A
Levels	Two	3
Format	Lyophilized	Liquid
Matrix	Human serum	same
Stability	Unopened: • Store at 2 – 8°C until expiration date. Reconstituted: • On the analyzers at 20 – 25°C: up to 5 hours • At -20°C: up to 1 month (freeze only once). • After thawing: use only once.	N/A
Analyte Concentration Control 1	20 U/mL Anti-CCP antibodies (human)	Negative Control (actual concentration not given)
Analyte Concentration Control 2	100 U/mL Anti-CCP antibodies (human)	Positive Control (actual concentration not given)
Analyte Concentration Control 3	N/A	Reference Control (actual concentration not given)

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Substantial equivalence - comparison

The following table compares the Elecsys PreciControl Anti-CCP with the controls supplied with the predicate device.

Control Comparison, continued		
Characteristic	**Elecsys PreciControl Anti-CCP**	**Predicate Device Eurodiagnostica IMMUNOSCAN RA Anti-CCP Test Kit (K052133)**
Handling	Dissolve carefully the contents of one bottle by adding exactly 2.0 mL of distilled water and allow to stand closed for 15 minutes to reconstitute. Mix carefully, avoiding the formation of foam. Transfer aliquots of freshly reconstituted controls into appropriate tubes for storage. Store the aliquots immediately at -20°C. When measuring a non-barcoded control, use only recommended sample tubes, cup on tube or cup on rack. Perform **only one** control procedure per aliquot.	N/A

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Food and Drug Administration
2098 Gaither Road
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SEP 11 2008

Roche Diagnostics
c/o Ms. Stephanie Greeman
Regulatory Affairs Consultant
US Regulatory Submissions
9115 Hague Road
Indianapolis, IN 46250

Re: k081338
Trade/Device Name: Elecsys Anti-CCP Immunoassay and Elecsys PreciControl Anti-CCP
Regulation Number: 21 CFR 866.5775
Regulation Name: Rheumatoid factor immunological test system
Regulatory Class: Class II
Product Code: NHX, JJX
Dated: July 31, 2008
Received: August 4, 2008

Dear Ms. Greeman:

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 the Code of Federal Regulations, Title 21, Parts 800 to 898. 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 Part 801); 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. 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

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

Enclosure

Indication for Use – Elecsys Anti-CCP Immunoassay

510(k) Number (if known): K081338

Device Name: Elecsys Anti-CCP Immunoassay

Indication For Use:

Immunoassay for the in vitro semi-quantitative determination of human IgG autoantibodies to cyclic citrullinated peptides in human serum and plasma. The results of the assay are intended to be used as an aid in the diagnosis of rheumatoid arthritis in combination with other clinical and laboratory findings.
The electrochemiluminescence immunoassay "ECLIA" is intended for use on Elecsys and **cobas e** immunoassay analyzers.

Prescription Use XXX (21 CFR Part 801 Subpart D) And/Or Over the Counter Use ____. (21 CFR Part 801 Subpart C)

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

Concurrence of CDRH, Office of In Vitro Diagnostic Device Evaluation and Safety (OIVD)

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

510(k) K081338

Indication for Use – Elecsys PreciControl Anti-CCP

510(k) Number (if known): K081338

Device Name: Elecsys PreciControl Anti-CCP

Indication For Use:

Elecsys PreciControl Anti-CCP is used for quality control of the Elecsys Anti-CCP immunoassay on the Elecsys and **cobas e** immunoassay analyzers.

Prescription Use __**XXX**___ And/Or Over the Counter Use ____.
(21 CFR Part 801 Subpart D) (21 CFR Part 801 Subpart C)

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

Concurrence of CDRH, Office of In Vitro Diagnostic Device Evaluation and Safety (OIVD)

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

510(k) K081338