K974695

MAY 21 1998

Roche

Diagnostics

510(k) Summary

Roche COBAS® INTEGRA Reagent Cassettes

In accordance with the Safe Medical Devices Act of 1990, a 510(k) summary is provided as outlined in 21 CFR 807.92.

The assigned 510(k) number is:_____

I. Identification of 510(k) Sponsor:

Roche Diagnostic Systems, Inc.
a subsidiary of Hoffmann-La Roche, Inc.
Branchburg Township
1080 U.S. Highway 202
Somerville, New Jersey 08876-3771

510(k) Submission dated December 12, 1997

Contact: James W. Haynes
Regulatory Affairs Associate
Phone: (908) 253-7569
Fax: (908) 253-7547

II. Device Name:

The device name, including both the trade/proprietary name and the classification name are provided in the table below.

Table 1

Proprietary Name	Classification Name	Product Code	Regulation Number
COBAS INTEGRA Acid/ Prostatic Phosphatase (ACPP)	Acid phosphatase (total or prostatic) test system	CKB	862.1020
COBAS INTEGRA Benzodiazepines with β-glucuronidase (BNZGL)	Benzodiazepine test system	JXM	862.3170

III. Identification of the legally marketed device to which the 510(k) sponsor claims equivalence:

The following table identifies the legally marketed devices to which Roche Diagnostic Systems, Inc. claims equivalence.

Table 2

Product Name	Predicate Product Name	K number	Date of substantial equivalence
COBAS INTEGRA Acid/ Prostatic Phosphatase (ACPP)	Roche Reagent for Acid Phosphatase (OEM from Reagents Applications, Inc.)	K831834	8/26/83
COBAS INTEGRA Benzodiazepines with β-glucuronidase (BNZGL)	COBAS INTEGRA Benzodiazepines (BENZ)	K951595	9/8/95

IV. Description of the Device/Statement of Intended Use:

The COBAS INTEGRA test applications contained in this submission are intended for use with the COBAS INTEGRA Analyzer. The COBAS INTEGRA Analyzer and COBAS INTEGRA Reagent cassettes together provide an integrated system for *in vitro* diagnostic testing. The COBAS INTEGRA Analyzer along with 107 other Roche COBAS INTEGRA Reagent Cassettes were previously cleared on September 8, 1995 (K951595); January 25, 1996 (K954992); July 23, 1996 (K961824); October 31,1996 (K963292); January 21, 1997 (K964457), and August 12, 1997 (K972250). COBAS INTEGRA Benzodiazepines was previously cleared on September 8, 1995.

The COBAS INTEGRA Analyzer utilizes three measuring principles, i.e., absorbance, fluorescence polarization and ion-selective electrodes. The analyzer has a throughput of up to 600 tests per hour with STAT samples prioritized and tested immediately. Random sample access, robotics and a user interface optimize time management and streamline workflow. The COBAS INTEGRA can store up to 68 COBAS INTEGRA Reagent Cassettes on board, 24 hours a day at 2-8°C. The COBAS INTEGRA Reagent Cassettes are compact and preparation-free with the added convenience of long term on-board stability. Barcode readers are used to identify newly loaded reagent cassettes, samples for patient identification, and rack inserts and to read calibration and control data from the cassette label. COBAS INTEGRA tests include chemistry, drugs of abuse, immunology, ion selective electrodes, therapeutic drug monitoring, and hematology reagents. For additional information on the COBAS INTEGRA Analyzer and its constituent modules, please refer to the Operator's Manual in Volumes 1 through 2, pages 92-703, of the original 510(k) submission (K951595).

Through this submission, it is the intention of Roche to gain clearance for one additional COBAS Reagent Cassette and one optional application for a previously approved COBAS Reagent Cassette. These are the COBAS INTEGRA Acid / Prostatic Phosphatase and the COBAS INTEGRA Benzodiazepines with β-glucuronidase, respectively.

COBAS INTEGRA Acid / Prostatic Phosphatase:

The cassette COBAS INTEGRA Acid / Prostatic Phosphatase contains an in vitro diagnostic reagent system intended for use on COBAS INTEGRA for the quantitative determination of the catalytic activity of the total and prostatic acid phosphatase in serum.

COBAS INTEGRA Benzodiazepines with β-glucuronidase:

The cassette COBAS INTEGRA Benzodiazepines contains an in vitro diagnostic reagent system intended for use on COBAS INTEGRA for the semi-quantitative detection of benzodiazepines in human urine using the enzyme β-glucuronidase. β-glucuronidase is added automatically as a diluent for sample pre-treatment enabling enhanced detection of metabolites of certain low-dose, short-acting benzodiazepines.

The intended use, clinical utility and methodology of each reagent cassette are further described in the test specific COBAS INTEGRA Method Manual sheets, contained in the test specific sections of this submission.

V. Summary of the technological characteristics of the new device in comparison to those of the predicate.

Tables 3-4 outline the technological characteristics (methodologies) of the COBAS INTEGRA Reagents in comparison to those of legally marketed predicate products.

VI. Brief discussion of the clinical and nonclinical tests relied on for a determination of substantial equivalence:

Tables 3-4 demonstrate the results of clinical and nonclinical studies performed using the COBAS INTEGRA Reagent Cassettes. The significant performance characteristics relied upon for a determination of substantial equivalence are summarized in this chart. This information concludes that the performance of this device is essentially equivalent to other legally marketed devices of a similar kind.

Table 3 - COBAS INTEGRA Acid/ Prostatic Phosphatase

	COBAS INTEGRA Acid/ Prostatic Phosphatase		**Roche Reagent for Acid Phosphatase**	
Intended Use	quantitative determination of both total and prostatic acid phosphatase		quantitative determination of both total and prostatic acid phosphatase	
Methodology	Hillmann method with naphthylphosphate. Inhibition of prostatic acid phosphatase by tartrate		Hillmann method with naphthylphosphate. Inhibition of prostatic acid phosphatase by tartrate	
Sample type	Serum		Serum	
Calibrator	Fixed calibration factor -no calibrator required		Fixed calibration factor -no calibrator required	
Controls	Roche Control Serum N and P (human)		Not specified in labeling	
Reagent (active ingredients)	R1: Citrate (liquid) 1,5 Pentanediol R2: Tartrate (liquid) R3: 1-napthylphosphate (granulate)		1. α-naphthylphosphate (granulate) 2. L-Tartrate / Sodium citrate (granulate) 3. Acetate Buffer	
Performance Characteristics: Total Acid Phosphatase				
Assay range	0 - 100 U/L		Linear to 40 U/L	
Sensitivity	8.5 x 10^{-4} ΔA/min per U/L of total acid phosphatase		Not specified in labeling	
Precision:	Level 1	Level 2	Level 1	Level 2
Mean	4 U/L	11 U/L	3.1 U/L	22.6 U/L
CV (within-run)	4.5 %	2.5 %	2.7 %	0.51 %
CV (total)	5.7 %	4.6 %	NA	NA
Accuracy:				
Sample size (n)	260		118	
Corr. Coefficient	0.978		0.990	
Linear regression	1.54x - 0.1 U/L		1.02 + 0.43 U/L	
Performance Characteristics: Prostatic Acid Phosphatase				
Precision:	Level 1	Level 2	Not specified in labeling	
Mean (U/L)	1 U/L	3 U/L		
CV (within-run)	23 %	9.4 %		
CV (total)	25 %	15 %		
Accuracy:				
Sample size (n)	264		118	
Corr. Coefficient	0.996		0.997	
Linear regression	1.83x + 0.5 U/L		1.00 - 0.07 U/L	

Table 4 - COBAS INTEGRA Benzodiazepines with β-glucuronidase

	COBAS INTEGRA Benzodiazepines with β-glucuronidase	**COBAS INTEGRA Benzodiazepines**
Methodology	Kinetic interaction of microparticles in a solution	Kinetic interaction of microparticles in a solution
Sample type	Urine	Urine
Calibrator	Abuscreen OnLine Calibration Pack	Abuscreen OnLine Calibration Pack
Controls	Abuscreen OnLine 1.5x Calibrator / Positive Control Abuscreen OnLine Negative Control	Abuscreen OnLine 1.5x Calibrator / Positive Control Abuscreen OnLine Negative Control
Cutoff	100 ng/mL	100, 200 and 300 ng/mL
Reagent (active ingredients)	R1: Sample Diluent R2: Antibody reagent: Benzodiazepines polyclonal antibody (sheep) in buffer R3: Microparticle reagent: conjugated benzodiazepine derivative microparticles in buffer β-glucuronidase (not provided)	R1: Sample Diluent R2: Antibody reagent: Benzodiazepines polyclonal antibody (sheep) in buffer R3: Microparticle reagent: conjugated benzodiazepine derivative microparticles in buffer

Performance Characteristics:

Assay range	0 - 200 ng/mL					0 - 300 ng/mL			
Precision:	L1	L2	L3	L4	L5	Level 1	Level 2	Level 3	Level 4
Mean (ng/mL)	52	86	108	139	171	49	80	101	126
% CV (within-run)	5.1	3.0	5.2	4.4	3.4	7.1	4.3	4.4	4.4
Sensitivity	5.0 ng/mL of nordiazepam at > 95% confidence					5.0 ng/mL of nordiazepam at > 95% confidence			

Accuracy Positive Samples		INTEGRA with β-gluc.	GC/MS		INTEGRA (100 ng/mL cutoff)	GC/MS
	+	50	50	+	50	50
	-	0	0	-	0	0

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Food and Drug Administration
2098 Gaither Road
Rockville MD 20850

MAY 21 1998

Mr. James W. Haynes
Regulatory Affairs Associate
Roche Diagnostic Systems, Inc.
1080 U.S. Highway 202
Somerville, New Jersey 08876-3771

Re: K974695/S001
COBAS INTEGRA Acid/Prostatic Phosphatase (ACPP)/COBAS INTEGRA Benzodiazepines with β-Glucuronidase (BNZGL)
Regulatory Class: II
Product Code: CKB, JXM
Dated: March 18, 1998
Received: March 19, 1998

Dear Mr. Haynes:

We have reviewed your Section 510(k) notification of intent to market the device referenced above and we have determined the device is substantially equivalent (for the indications for use stated in the enclosure) to 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). 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 (Premarket Approval), 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 895. A substantially equivalent determination assumes compliance with the Current Good Manufacturing Practice requirements, as set forth in the Quality System Regulation (QS) for Medical Devices: General regulation (21 CFR Part 820) and that, through periodic QS inspections, the [illegible] and Drug Administration (FDA) will verify such assumptions. Failure to comply with the GMP regulation may result in regulatory action. In addition, FDA may publish further announcements concerning your device in the Federal Register. Please note: this response to your premarket notification submission does not affect any obligation you might have under sections 531 through 542 of the Act for devices under the Electronic Product Radiation Control provisions, or other Federal laws or regulations.

Under the Clinical Laboratory Improvement Amendments of 1988 (CLIA-88), this device may require a CLIA complexity categorization. To determine if it does, you should contact the Centers for Disease Control and Prevention (CDC) at (770) 488-7655.

This letter will allow you to begin marketing your device as described in your 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 and additionally 809.10 for in vitro diagnostic devices), please contact the Office of Compliance at (301) 594-4588. Additionally, for questions on the promotion and advertising of your device, please contact the Office of Compliance at (301) 594-4639. Also, please note the regulation entitled, "Misbranding by reference to premarket notification" (21 CFR 807.97). Other general information on your responsibilities under the Act may be obtained from the Division of Small Manufacturers Assistance at its toll-free number (800) 638-2041 or (301) 443-6597 or at its internet address "http://www.fda.gov/cdrh/dsmamain.html".

Sincerely yours,

Steven Gutman

Steven I. Gutman, M.D., M.B.A.
Director
Division of Clinical
Laboratory Devices
Office of Device Evaluation
Center for Devices and
Radiological Health

Enclosure

510(k) Number (if known) K974695

Device Name: Roche COBAS INTEGRA Acid / Prostatic Phosphatase Reagent Cassette

Roche COBAS INTEGRA Benzodiazepines with β-glucuronidase

Indications for Use:

The cassette COBAS INTEGRA Acid / Prostatic Phosphatase contains an in vitro diagnostic reagent system intended for use on COBAS INTEGRA for the quantitative determination of the catalytic activity of total and prostatic acid phosphatase in serum.

The cassette Roche COBAS INTEGRA Benzodiazepines contains an in vitro diagnostic reagent system intended for use on the COBAS INTEGRA for the semi-quantitative detection of benzodiazepines in human urine using the enzyme β-glucuronidase.

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

Concurrence of CDRH, Office of Device Evaluation (ODE)

(Division Sign-Off)
Division of Clinical Laboratory Devices
510(k) Number K974695

✓ Prescription Use (Per 21 CFR 801.109) OR Over-The-Counter Use (Optional Format 1-2-96)