



510(k) Summary

Roche COBAS® INTEGRA LDL Direct and Roche Calibrator LDL Direct

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: K982848

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 August 6, 1998

Contact: Rita Smith
Senior Regulatory Affairs Associate
Phone: (908) 253-7545
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

Product Name	Classification Name	Product Code	CFR Number and Regulatory Class
COBAS INTEGRA LDL Direct (LDL-D)	Low Density Lipoprotein test system	MRR	862.1475 Class I
Roche Calibrator LDL Direct	Calibrator, Secondary	JIT	862.1150 Class II

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	Date Predicate Cleared	Predicate 510(k) Number
COBAS INTEGRA LDL Direct (LDL-D)	Roche Reagent for LDL Direct	1/6/93	K924674
Roche Calibrator LDL Direct	Roche Calibrator Serum	6/16/92	K922043

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

Tables 3 demonstrates the results of clinical and nonclinical studies performed using the COBAS INTEGRA LDL Direct Reagent Cassette. 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.

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, which is also known as the COBAS INTEGRA 700. 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 108 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); August 12, 1997 (K972250); and May 21, 1998 (K974695).

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 the new reagent cassette, COBAS INTEGRA LDL Direct and its associated calibrator, Roche Calibrator LDL Direct.

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

Tables 3 outlines the technological characteristics (methodologies) of the COBAS INTEGRA LDL Direct in comparison to those of legally marketed predicate products.

COBAS INTEGRA LDL DIRECT

The cassette COBAS INTEGRA LDL Direct (LDL-D) contains an in vitro diagnostic reagent system intended for use on COBAS INTEGRA 700 for the quantitative determination of LDL-cholesterol direct concentration in serum and plasma. Low density lipoprotein cholesterol measurement, in conjunction with other lipid determinations, has been shown to be useful in assessing the risk of coronary heart disease.

ROCHE CALIBRATOR LDL DIRECT

The Roche Calibrator LDL Direct is intended for use as calibrator in quantitative Low Density Lipoprotein cholesterol assays. It is recommended for use with LDL Direct reagents on COBAS® chemistry systems. A calibrator is a device intended for medical purposes for use in a test system to establish points of reference that are used in the determination of values in the measurement of substances in human specimens.

Table 3

	COBAS INTEGRA LDL Direct and Roche Calibrator LDL Direct		Roche Reagents for LDL Direct (K924674) and Roche Calibrator Serum (K922043)	
Intended Use:				
Reagent	for the quantitative determination of LDL-cholesterol direct concentration in serum and plasma		intended for use in direct, quantitative determination of low-density lipoprotein (LDL) cholesterol in serum or plasma	
Calibrator	intended for use as calibrator in quantitative Low Density Lipoprotein cholesterol assays on COBAS chemistry systems		calibrator intended for use on COBAS chemistry instruments with Roche clinical chemistry reagents	
Reagents	<ul style="list-style-type: none"> • Enzymes and detergent (liquid) • Coupler and detergent (liquid) 		<ul style="list-style-type: none"> • a suspension of polystyrene beads coated with goat polyclonal antibodies to human apolipoproteins in buffer with 0.1% sodium azide. • controls, 2 levels • cholesterol separation tubes 	
Principle	HDL, VLDL and chylomicrons are specifically hydrolyzed by a detergent. Through a series of chemical reactions only a colorless product is produced from these particles. During this first step, LDL particles remain intact and a second detergent with a coupler is added to release cholesterol in the LDL particles. This cholesterol then undergoes an enzymatic reaction in the presence of coupler to produce color.		Affinity purified goat polyclonal antisera to specific human apolipoproteins facilitates the removal of HDL and VLDL in the specimen. After centrifugation, LDL remains in the filtrate solution.	
Calibrator				
Matrix:	human serum		human serum	
Approx. Value:	2.85 mmol/L (110 mg/dL)		51.4 mg/dL	
Performance Characteristics:				
Precision:	Level 1	Level 2	Level 1	Level 2
Mean	2.72 mmol/L (105 mg/dL)	5.12 mmol/L (198 mg/dL)	88 mg/dL	193 mg/dL
Within Run CV	1.4	1.8	2.8	2.1
Total CV	1.9	2.1	3.9	2.8
Linearity	14.0 mmol/L (540 mg/dL)		500 mg/dL	
Accuracy:	COBAS MIRA	Beta-quant- ification	Friedewald formula	Beta-quantification
Sample size (n)	276	150	276	74
Corr. Coefficient (r)	0.964	0.954	0.963	0.96
Linear regression	$y = 0.85x + 0.7 \text{ mmol/L}$	$y = 0.95x + 0.1 \text{ mmol/L}$	$y = 0.97x + 0.5 \text{ mmol/L}$	$y = 1.05x + 4.8 \text{ mg/dL}$



OCT 1 1998

Food and Drug Administration
2098 Gaither Road
Rockville MD 20850

Maria Feijoo
Manager, Regulatory Affairs
Roche Diagnostic Systems, Inc.
1080 U.S. Highway 202
Somerville, New Jersey 08876-3771

Re: K982848
COBAS® INTEGRA LDL Direct Reagent Cassette Roche®
Calibrator LDL Direct
Regulatory Class: I & II
Product Code: MRR, JIT
Dated: August 11, 1998
Received: August 12, 1998

Dear Ms. Feijoo:

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 (Pre-market 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 Food 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 pre-market 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) K982848

Device Name: COBAS INTEGRA LDL Direct Reagent Cassette (LDL-D),
Art. No. 07 6674 7

Roche Calibrator LDL Direct , Art. No. 07 6675 5

Indications for Use:

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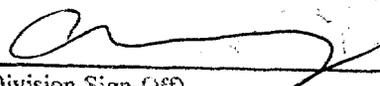
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ANOTHER PAGE IF NEEDED)

Concurrence of CDRH, Office of Device Evaluation (ODE)

Prescription Use
(Per 21 CFR 801.109)

OR

Over-The-Counter Use
(Optional Format 1-2-96)



(Division Sign-Off)
Division of Clinical Laboratory Devices

510(k) Number K982848