

DEC 11 1998



Diagnostic

## 510(k) Summary

### Abuscreen ONLINE® Cannabinoids

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 October 20, 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**

<b>Product Name</b>	<b>Classification Name</b>	<b>Product Code</b>	<b>CFR Number and Regulatory Class</b>
Abuscreen ONLINE for Cannabinoids	Enzyme Immunoassay, Cannabinoids	LDJ	862.3870 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**

<b>Product Name</b>	<b>Predicate Product Name</b>	<b>510(k) Number and Date Predicate Cleared</b>
Abuscreen ONLINE for Cannabinoids	Abuscreen ONLINE for Cannabinoids	K981585 5/28/98

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

Abuscreen ONLINE Cannabinoids is an *in vitro* diagnostic test for the qualitative and semiquantitative detection of cannabinoids and its metabolites in human urine on automated clinical chemistry analyzers at cutoff concentrations of 20 ng/mL, 50 ng/mL, and 100 ng/mL. Semiquantitative test results may be obtained that permit laboratories to assess assay performance as part of a quality control program. Measurements obtained by this device are used in the diagnosis of cannabinoid use or abuse.

The proposed Abuscreen ONLINE Cannabinoids test kit is specifically intended for use on the Hitachi 917 Analyzer and future similar analyzer models. It was adapted from the currently marketed Abuscreen ONLINE Cannabinoids test kit. The labeling and packaging have been changed for use on the Hitachi 917 Analyzer as well as an addition of a surfactant to the diluent. This modified test kit is not a replacement to the currently marketed kit.

The Hitachi 917 Analyzer System is a fully automatic, computer-controlled system for clinical chemistry. It was conceived for both quantitative and qualitative *in vitro* determination using a large variety of tests for analysis, e.g. in serum and urine. Integrated in the system is an ion-selective unit for determination of electrolytes. The throughput per hour is 800 tests for clinical chemistry (1200 with electrolytes). The system consists of the analyzer which performs all functions required for fully automatic sample and test processing. Beginning with the automatic recording of patient samples - provided that they are supplied in barcode-labeled vessels - up to the photometric measurement and results transmission to the computer unit. Additional detailed information about the Hitachi 917 Analyzer is contained in volume II of the premarket notification (K953239) cleared on September 25, 1995.

#### **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 Abuscreen ONLINE Cannabinoids in comparison to that of the legally marketed predicate product.

**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 Abuscreen ONLINE Cannabinoids test kit. 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 the legally marketed predicate device.

***Abuscreen ONLINE Cannabinoids for Hitachi 917***  
***Table 1***

	<b>Proposed: Abuscreen ONLINE Cannabinoids for Hitachi 917</b>	<b>Previously Cleared: (K981585) Abuscreen ONLINE Cannabinoids (1000 Test Kit)</b>
Methodology	Kinetic interaction of microparticles in a solution as measured by changes in light transmission	Kinetic interaction of microparticles in a solution as measured by changes in light transmission
Sample type	urine	urine
Intended Use	qualitative and semiquantitative detection of cannabinoids and its metabolites	qualitative and semiquantitative detection of cannabinoids
Calibrator	Abuscreen ONLINE Cannabinoids Calibration Pack	Abuscreen ONLINE Cannabinoids Calibration Pack or Abuscreen Cannabinoids Calibration Pack 20
Cutoff(s)	20, 50, 100 ng/mL	20, 50, 100 ng/mL
Reagent (active ingredients)	1. Ab reagent: cannabinoids monoclonal (mouse) antibody in buffer 2. Microparticle reagent: Conjugated cannabinoid derivative microparticles in buffer 3. Diluent: Buffer	1. Ab reagent: cannabinoids monoclonal (mouse) antibody in buffer 2. Microparticle reagent: Conjugated cannabinoid derivative microparticles in buffer 3. Diluent: Buffer
<b>Performance Characteristics:</b>		
<b>Precision Qualitative ( 20 ng/mL Cutoff):</b>		
	>95% negative at 15 ng/mL >95% positive at 25 ng/mL	>95% negative at 15 ng/mL >95% positive at 25 ng/mL
<b>Within Run</b>	Mean (OD)	CV%
15 ng/mL	5607	0.9
20 ng/mL	4990	1.0
25 ng/mL	4614	1.3
50 ng/mL	2660	1.1
60 ng/mL	2153	2.0
<b>Day-to-Day</b>	Mean (OD)	CV%
15 ng/mL	5651	1.3
20 ng/mL	5054	1.4
25 ng/mL	4670	1.6
50 ng/mL	2729	2.2
60 ng/mL	2237	2.9

***Abuscreen ONLINE Cannabinoids for Hitachi 917  
 Table 1 (Continued)***

			<b>Proposed: Abuscreen ONLINE Cannabinoids for Hitachi 917</b>		<b>Previously Cleared: (K981585) Abuscreen ONLINE Cannabinoids (1000 Test Kit)</b>	
<b>Precision Qualitative ( 50 ng/mL Cutoff ):</b>						
			>95% negative at 40 ng/mL >95% positive at 60 ng/mL		>95% negative at 40 ng/mL >95% positive at 60 ng/mL	
<b>Within Run</b>	Mean (OD)	CV%				
25 ng/mL	2403	2.9				
40 ng/mL	1732	1.1				
50 ng/mL	1340	1.5				
60 ng/mL	1169	2.2				
75 ng/mL	823	1.3				
<b>Day-to-Day</b>	Mean (OD)	CV%				
25 ng/mL	2404	1.1				
40 ng/mL	1749	1.4				
50 ng/mL	1354	2.2				
60 ng/mL	1177	2.5				
75 ng/mL	824	4.2				
<b>Precision Qualitative ( 100 ng/mL Cutoff ):</b>						
			>95% negative at 80 ng/mL >95% positive at 120 ng/mL		>95% negative at 75 ng/mL >95% positive at 125 ng/mL	
<b>Within Run</b>	Mean (OD)	CV%				
50 ng/mL	3180	1.4				
80 ng/mL	2469	1.3				
100 ng/mL	1755	1.2				
120 ng/mL	1547	2.5				
150 ng/mL	1120	2.9				
<b>Day-to-Day</b>	Mean (OD)	CV%				
50 ng/mL	3194	1.6				
80 ng/mL	2483	1.8				
100 ng/mL	1764	2.7				
120 ng/mL	1536	2.7				
150 ng/mL	1119	3.2				
<b>Precision Quantitative ( 20 ng/mL Cutoff ):</b>						
<b>Within Run</b>	Mean (ng/mL)	CV%	Conc. (ng/mL)	Mean (ng/mL)	CV%	
15 ng/mL	13	5.0	15	13	6	
20 ng/mL	20	3.2	20	19	7	
25 ng/mL	23	2.9	25	23	4	
50 ng/mL	50	1.5	40	40	2	
60 ng/mL	94	1.3				

**Abuscreen ONLINE Cannabinoids for Hitachi 917**  
**Table 1 (Continued)**

<b>Proposed:</b> Abuscreen ONLINE Cannabinoids for Hitachi 917			<b>Previously Cleared: (K981585)</b> Abuscreen ONLINE Cannabinoids (1000 Test Kit)		
<b>Precision Quantitative ( 20 ng/mL Cutoff ):</b>					
<b>Day-to-Day</b>	<b>Mean (ng/mL)</b>	<b>CV%</b>	<b>Conc. (ng/mL)</b>	<b>Mean (ng/mL)</b>	<b>CV%</b>
15 ng/mL	14	9.1	15	14	7
20 ng/mL	18	8.5	20	20	6
25 ng/mL	24	4.6	25	25	5
50 ng/mL	48	3.3	40	41	2
60 ng/mL	97	7.6			
<b>Precision Quantitative ( 50 ng/mL Cutoff ):</b>					
<b>Within Run</b>	<b>Mean (ng/mL)</b>	<b>CV%</b>	<b>Conc. (ng/mL)</b>	<b>Mean (ng/mL)</b>	<b>CV%</b>
25 ng/mL	23	2.9	25	23	4
40 ng/mL	39	1.1	40	40	2
50 ng/mL	50	1.5	50	49	1
60 ng/mL	62	2.2	60	66	3
75 ng/mL	94	1.3	100	101	1
<b>Day-to-Day</b>	<b>Mean (ng/mL)</b>	<b>CV%</b>	<b>Conc. (ng/mL)</b>	<b>Mean (ng/mL)</b>	<b>CV%</b>
25 ng/mL	24	4.6	25	25	5
40 ng/mL	39	4.0	40	41	2
50 ng/mL	48	3.3	50	50	3
60 ng/mL	60	5.8	60	68	3
75 ng/mL	97	7.6	100	100	1
<b>Precision Quantitative ( 100 ng/mL Cutoff ):</b>					
<b>Within Run</b>	<b>Mean (ng/mL)</b>	<b>CV%</b>	<b>Conc. (ng/mL)</b>	<b>Mean (ng/mL)</b>	<b>CV%</b>
50 ng/mL	54	2.3	50	50	4
80 ng/mL	74	1.7	80	75	4
100 ng/mL	103	2.0	100	95	2
120 ng/mL	118	1.9	120	123	2
150 ng/mL	154	1.5	150	148	1
<b>Day-to-Day</b>	<b>Mean (ng/mL)</b>	<b>CV%</b>	<b>Conc. (ng/mL)</b>	<b>Mean (ng/mL)</b>	<b>CV%</b>
50 ng/mL	53	2.7	50	52	6
80 ng/mL	75	2.6	80	76	3
100 ng/mL	106	3.8	100	96	2
120 ng/mL	120	3.2	120	125	2
150 ng/mL	154	3.3	150	149	1
<b>Accuracy</b>					
20 ng/mL Cutoff	N= 69 Confirmed Pos. 69 Pos. 0 Neg.		N= 50 Confirmed Pos. 50 Pos. 0 Neg.		
50 ng/mL Cutoff	N= 69 Confirmed Pos. 53 Pos. 16 Neg.		N = 50 Confirmed Pos. 38 Pos. 12 Neg.		
100 ng/mL Cutoff	N= 69 Confirmed Pos. 37 Pos. 32 Neg.		N= 50 Confirmed Pos. 21 Pos. 29 Neg.		
<b>Limit of Detection</b>	7 ng/mL		< 5 ng/mL		



DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

DEC 11 1998

Ms. Rita Smith  
Senior Regulatory Affairs Associate  
Roche Diagnostic Systems, Inc.  
A Subsidiary of Hoffmann-La Roche, Inc.  
Branchburg Township  
1080 U.S. Highway 202  
Somerville, New Jersey 08876-3771

Food and Drug Administration  
2098 Gaither Road  
Rockville MD 20850

Re: K983701

Trade Name: Abuscreen ONLINE® Cannabinoids Assay  
Regulatory Class: II  
Product Code: LDJ  
Dated: October 20, 1998  
Received: October 21, 1998

Dear Ms. Smith:

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 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). 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.

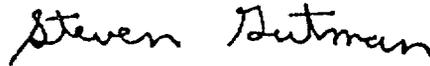
If your device is classified (see above) into either class II (Special Controls) or class III (Pre-market Approval), it may be subject to such additional controls. Existing major regulations affecting your device can be found in the Code of Federal Regulations, Title 21, Parts 800 to 895. A substantially 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.

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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/dsma/dsmamain.html>".

Sincerely yours,



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) \_\_\_\_\_

Device Name: Abuscreen ONLINE® Cannabinoids

**Indications for Use:**

Abuscreen ONLINE for Cannabinoids is an *in vitro* diagnostic test for the qualitative and semiquantitative detection of cannabinoids in human urine on automated clinical chemistry analyzers at cutoff concentrations of 20 ng/mL, 50 ng/mL, and 100 ng/mL. Semiquantitative test results may be obtained that permit laboratories to assess assay performance as part of a quality control program. Measurements obtained by this device are used in the diagnosis of cannabinoid use or abuse.

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

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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 K983701