

JAN 27 2000

**510(k) SUMMARY OF SAFETY AND EFFECTIVENESS
For Abbott Aeroset Theophylline Assay**

1. Manufacturer and Contact Information:

Manufacturer: Syva Company
3403 Yerba Buena Rd.
P.O. Box 49013
San Jose, CA 95161-9013

Abbott Laboratories
820 Mission Street
South Pasadena, CA 91030

Distributor: Abbott Laboratories
K-Complex
Route 41 & Martin Luther King Drive
North Chicago, IL 60064

Contact Information: Paul Rogers
Syva Company
3403 Yerba Buena Road
San Jose, CA 95161-9013
Tel: 408-239-2000

2. Device Classification Name:

The Clinical Chemistry and Clinical Toxicology Devices Panel have classified "Theophylline Test System" as Class II. Reference: 21 CFR 862.3880, revised April 1, 1993.

3. Intended Use:

Abbott Aeroset® Theophylline Assay is a homogeneous enzyme immunoassay. The assay is intended for use in the quantitative analysis of theophylline in human serum or plasma.

4. Device Description and Characteristics:

This 510(k) Summary of Safety and Effectiveness is being submitted in accordance with the requirements of SMDA 1990.

Syva Company is submitting the Premarket Notification, 510(k) on behalf of Abbott Laboratories to convey Abbott's intention to commercially market an *in vitro* diagnostic reagent test kit for the analysis of theophylline in human serum or plasma. The Abbott Aeroset® Theophylline Assay is a homogenous enzyme assay intended for use in quantitative analysis of theophylline in human serum or plasma. The Abbott Aeroset® Theophylline Assay and calibrators has been found to be equivalent to the predicate device: Emit® 2000 Theophylline Assay (K913123) with regard to intended use, assay sample, and overall performance characteristics.

**510(k) SUMMARY OF SAFETY AND EFFECTIVENESS
For Abbott Aeroset Theophylline Assay (cont.)**

Comparative Analysis: The Abbott Aeroset Theophylline Assay and Calibrators showed excellent correlation to the predicate method. The comparative analysis to the predicate method resulted in a correlation of 1.0 with a slope value of 1.07.

Precision: A Precision study was performed and the Abbott Aeroset Theophylline Assay demonstrated acceptable within-run precision with coefficients of variation (%CV) ranging from 1.52 to 2.07% and acceptable total precision with coefficients of variation (%CV) ranging from 2.19 to 2.87%.

5. Substantial Equivalence:

In conclusion, Abbott Laboratories considers the Abbott Aeroset® Theophylline Assay and Abbott Aeroset® Theophylline Calibrators to be substantially equivalent to the Emit® 2000 Theophylline Assay(K913123) and Emit® 2000 Theophylline Calibrators(K913123) with regard to intended use, assay sample, and overall performance characteristics.



NOV 15 2007

Food and Drug Administration
2098 Gaither Road
Rockville MD 20850

Abbott Laboratories
C/O Mary Beth Femmel
Syva Company Regulatory Affairs
3403 Yerba Buena Road
P.O. Box 49013
San Jose, CA 95161-9013

Re: k993029

Trade/Device Name: Abbot Aeroset Theophylline Assay
Abbot Aeroset Theophylline Calibrators
Regulation Number: Theophylline test system.
Regulation Name: 21 CFR 862.3880
Regulatory Class: II
Product Code: KLS, DLJ
Dated: January 10, 2000
Received: January 11, 2000

Dear Ms. Femmel:

This letter corrects our substantially equivalent letter of January 27, 2000.

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 (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 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); and if applicable, the electronic product radiation control provisions (sections 531-542 of the Act); 21 CFR 1000-1050.

This letter will allow you to continue 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.

You may obtain 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/dsma/dsmamain.html>

Sincerely yours,



Jean M. Cooper, M.S. D.V.M.
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 Statement

510(k) Number (If known): K993029

Device Name: Abbott Aeroset® Theophylline Assay
Abbott Aeroset® Theophylline Calibrators

Indications for Use:

The Abbott Aeroset® Theophylline Assay is a homogeneous enzyme immunoassay intended for use in the quantitative analysis of theophylline in human serum or plasma on the Abbott Aeroset® analyzer (K980367). The physiological effects of the antiasthmatic drug theophylline correlate better with the drug's concentration in serum than with dosage. Since serious toxic effects of theophylline are related to the serum concentration and are not always preceded by minor adverse symptoms, serum theophylline monitoring helps to avoid serious toxicity(1-5).

When theophylline is used to treat acute symptoms, monitoring serum concentrations allows the physician to adjust the dosage regimen to compensate for interpatient variations in the theophylline elimination rate (1). The chronic treatment of asthma and other bronchospastic diseases also requires individualization of the theophylline dosage to maintain serum concentrations within the therapeutic range (2,3). A theophylline dosage generally can be maintained without further monitoring for six months in rapidly growing children and for twelve months in other patients. Changes in concurrent drug therapy, variations in drug elimination, or the appearance of side effects, uncontrolled symptoms, or altered drug clearance signal the need for measuring the serum theophylline concentration (1,3).

Methods historically used to monitor serum theophylline concentrations include gas-liquid chromatography, high-performance liquid chromatography, and immunoassay (1,5,6).

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Sean Coughlin
(Division Sign-Off)
Division of Clinical Lab
510(k) Number: K993029

(PLEASE DO NOT WRITE BELOW THIS LINE - CONTINUE ON 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)