BECKMAN COULTER

FEB - 3 2004

510(k) SUMMARY

This summary of 510(k) safety and effectiveness information is being submitted in accordance with the requirements of SMDA 1990 and 21 CFR 807.92.

The assigned 510(k) number is: K033036

Submitter's Name and Address

Beckman Coulter, Inc.
1000 Lake Hazeltine Drive
Chaska, MN 55318
Telephone: (952) 368-1323
Fax: (952) 368-7610
Contact: Brent Taber

Date Prepared: January 23, 2004

Device Names

Proprietary Name:	BR Monitor and BR Monitor Calibrators on the Access® Immunoassay Systems
Common Name:	Immunological test for CA 15-3 antigen
Classification Name:	System, Test, Immunological, Antigen, Tumor

Predicate Device

Abbott AxSYM® CA 15-3™
Abbott Laboratories, Diagnostics Division
Abbott Park, IL 60064

510(k) Number: k963926

Device Description

The Access BR Monitor reagents, calibrators, and the Access Immunoassay Analyzers (Access, Access 2, Synchron LXi 725, and UniCel DxI 800) comprise the Access Immunoassay Systems for the quantitative determination of CA 15-3 antigen in human serum and plasma.

BECKMAN COULTER

Intended Use

The Access BR Monitor assay is a paramagnetic particle, chemiluminescent immunoassay for the quantitative determination of CA 15-3 antigen levels in human serum and plasma using the Access Immunoassay Systems. This device is indicated for use in the measurement of CA 15-3 antigen to aid in the management of breast cancer patients. Serial testing for patient CA 15-3 antigen concentrations should be used in conjunction with other clinical methods for monitoring breast cancer.

Comparison of Technological Characteristics

Attribute	AxSYM CA 15-3	Access BR Monitor
Intended Use	For the measurement of CA 15-3 antigen in human serum and plasma	For the measurement of CA 15-3 antigen in human serum and plasma
Assay Principles	Utilizes the binding of CA 15-3 to a specific monoclonal antibody in a two site "sandwich" immunoassay; Utilizes alkaline phosphatase enzyme conjugated to monoclonal antibody	Utilizes the binding of CA 15-3 to a specific monoclonal antibody in a two site "sandwich" immunoassay; Utilizes alkaline phosphatase enzyme conjugated to monoclonal antibody
Solid Support	Latex particles	Paramagnetic particles
Detection System	Utilizes 4-Methylumbelliferyl Phosphate substrate; Measures fluorescent Methylumbelliferone from a fluorescent reaction	Utilizes dioxetane-based chemiluminescent substrate; Measures light production from a chemiluminescent reaction
Calibrators	Liquid calibrators prepared from buffered bovine serum albumin matrix with CA 15-3 antigen at specified levels	Liquid calibrators prepared from buffered bovine serum albumin matrix with CA 15-3 antigen at specified levels

BECKMAN COULTER

Summary of Analytical Studies

Imprecision: Within-run assay imprecision was tested for concentrations from approximately 15 to 662 U/mL. The within-run imprecision ranged from 1.4% CV to 2.2% CV. Between-run assay imprecision ranged from 1.6% CV to 4.1% CV. Total imprecision ranged from 2.1% CV to 4.6% CV.

Analytical Sensitivity: The lowest detectable level of CA 15-3 antigen distinguishable from zero (Access BR Monitor Calibrator S0) is < 0.5 U/mL.

Dilution Recovery (Linearity): Linearity studies performed by diluting 6 human serum samples at various levels with Access Sample Diluent A provided an average recovery of 101%, with individual recoveries ranging from 89% to 113%.

Methods Comparison: A comparison of CA 15-3 antigen values from 435 samples, ranging from approximately 0 to 250 U/mL, run with both the Access BR Monitor assay and the AxSYM CA 15-3 assay demonstrated acceptable agreement with the following statistical data: $y = 0.8234x + 1.9212$, $r = 0.91$.

Analytical Specificity: There was no significant interference from therapeutic drugs or similar compounds in the Access BR Monitor assay. In addition, there was no significant interference from potential sample interferents (total protein, bilirubin, hemoglobin, and triglycerides).

Stability: Access BR Monitor reagents are stable for 56 days after opening and calibrators are stable for 90 days after opening. The calibration curve is stable for 56 days.

Summary of Clinical Studies

A value of 31.3 U/mL CA 15-3 for apparently healthy female subjects was set as the upper reference limit (URL) for the Access BR Monitor assay. The distribution of Access BR Monitor values for apparently healthy female subjects and for female subjects with non-malignant and malignant conditions are comparable with results provided in the predicate device labeling.

Results from a serial monitoring study of subjects who were diagnosed with breast cancer and who were monitored over the course of disease management demonstrate that CA 15-3 concentrations obtained with the Access BR Monitor assay paralleled results obtained with the predicate device.

BECKMAN COULTER

Summary of Clinical Studies, continued

Results from samples in a serial monitoring study show percent positive agreement (relative sensitivity) and percent negative agreement (relative specificity), based on the URLs for the Access BR Monitor and the predicate device (URL = 31.3 U/mL), were 83.8% and 98.5%, respectively. The % agreement between the two assays was 90.7%.

Based on samples from the serial monitoring study categorized as "Progression", the clinical sensitivity, using the 31.3 U/mL URLs, for the Access BR Monitor and for the predicate device were 70.5% and 75.0%, respectively. Based on samples from the serial monitoring study categorized as "No Evidence of Disease", the clinical specificity, using the 31.3 U/mL URLs, for the Access BR Monitor and for the predicate device were 90.0% and 85.0%, respectively.

A 25% Least Significant %Change (LS %Change) was selected to cover the imprecision across the range of Access BR Monitor concentrations. The LS %Change represents the minimum magnitude change between two serial CA 15-3 antigen measurements that could not be attributed to assay variation or noise. The effectiveness of CA 15-3 antigen measurements to aid in the management of breast cancer subjects was also further determined by assessing changes in CA 15-3 antigen levels in serial sets (sequential visit pairs) with changes in disease status. Samples from subjects from the serial monitoring study were further analyzed for %Change in CA 15-3 antigen concentrations across serial sets (sequential visit pairs) and disease status. In this evaluation disease status, between consecutive serial draws, was classified as "Progression" or "No Progression".

The LS %Change analysis resulted in a percent positive agreement of 92.5% (95% CI 80.1% to 97.4%), a percent negative agreement of 77.8% (95% CI 54.8% to 91.0%), and a percent total agreement of 87.4% (95% CI 79.6% to 92.5%) relative to the predicate device. The LS %Change analysis resulted in positive concordance of 52.9% (95% CI 36.7% to 68.6%), negative concordance of 63.8% (95% CI 52.0% to 74.1%), and total concordance of 60.2% (95% CI 50.5% to 69.1%) relative to clinical status for the Access BR Monitor assay.

Conclusion

Access BR Monitor and BR Monitor Calibrators on the Access Immunoassay Systems is substantially equivalent to Abbott AxSYM CA 15-3 for the measurement of CA 15-3 antigen in human serum and plasma.

Beckman Coulter, Inc.
1000 Lake Hazeltine Drive
Chaska, MN 55318-1084

Telephone: (952) 448-4848
Internet: www.beckmancoulter.com

DEPARTMENT OF HEALTH & HUMAN SERVICES

Food and Drug Administration
2098 Gaither Road
Rockville MD 20850

Mr. Brent Taber
Senior Regulatory Specialist
Beckman Coulter, Inc.
1000 Lake Hazeltine Drive
Chaska, Minnesota 55318-1084

FEB - 3 2004

Re: k033036
Trade/Device Name: BR Monitor and BR Monitor Calibrators on the Access Immunoassay Systems
Regulation Number: 21 CFR § 866.6010
Regulation Name: Tumor Associated Antigen (Immunological System)
Regulatory Class: II
Product Code: MOI, JIT
Dated: January 26, 2004
Received: January 28, 2004

Dear Mr. Taber:

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 Title 21, Code of Federal Regulations (CFR), Parts 800 to 895. 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 Parts 801 and 809); and 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 information about the application of labeling requirements to your device, or questions on the promotion and advertising of your device, please contact the Office of In Vitro Diagnostic Device Evaluation and Safety at (301) 594-3084. Also, please note the regulation entitled, "Misbranding by reference to premarket notification" (21CFR Part 807.97). 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 (301) 443-6597 or at its Internet address http://www.fda.gov/cdrh/dsma/dsmamain.html.

Sincerely yours,

Joseph L. Hackett, Ph.D.
Acting Director
Division of Immunology and Hematology Devices
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): K033036

Device Name: BR Monitor and BR Monitor Calibrators on the Access Immunoassay Systems

Indications For Use:

The Access BR Monitor assay is a paramagnetic particle, chemiluminescent immunoassay for the quantitative determination of CA 15-3 antigen levels in human serum and plasma using the Access Immunoassay Systems. This device is indicated for use in the measurement of CA 15-3 antigen to aid in the management of breast cancer patients. Serial testing for patient CA 15-3 antigen concentrations should be used in conjunction with other clinical methods for monitoring breast cancer.

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

Concurrence of CDRH, Office of Device Evaluation (ODE)

Maria M Chan

Division Sign-Off

Office of In Vitro Diagnostic Device Evaluation and Safety

510(k) K033036

Prescription Use ✓ OR Over-The Counter Use _____
(Per 21 CFR 801.109)

(Optional Format 1-2-96)