DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Food and Drug Administration
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October 27, 2017

AXIS-SHIELD DIAGNOSTICS LTD.
CLAIRE DORA
REGULATORY AFFAIRS MANAGER
LUNA PLACE
THE TECHNOLOGY PARK
DUNDEE, SCOTLAND DD2 1XA
UK

Re: K172133
Trade/Device Name: ADVIA Centaur Active-B12 (Holotranscobalamin) (AB12) assay
Regulation Number: 21 CFR 862.1810
Regulation Name: Vitamin B12 test system
Regulatory Class: II
Product Code: CDD
Dated: September 26, 2017
Received: September 28, 2017

Dear Dr. Claire Dora:

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. Please note: CDRH does not evaluate information related to contract liability warranties. We remind you, however, that device labeling must be truthful and not misleading.

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 Parts 801 and 809); medical device reporting (reporting of medical device-related adverse events) (21 CFR 803); 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.

If you desire specific advice for your device on our labeling regulations (21 CFR Parts 801 and 809), please contact the Division of Industry and Consumer Education at its toll-free number (800) 638 2041 or (301) 796-7100 or at its Internet address http://www.fda.gov/MedicalDevices/ResourcesforYou/Industry/default.htm. Also, please note the regulation entitled, "Misbranding by reference to premarket notification" (21 CFR Part 807.97). For questions regarding the reporting of adverse events under the MDR regulation (21 CFR Part 803), please go to http://www.fda.gov/MedicalDevices/Safety/ReportaProblem/default.htm for the CDRH's Office of Surveillance and Biometrics/Division of Postmarket Surveillance.

You may obtain other general information on your responsibilities under the Act from the Division of Industry and Consumer Education at its toll-free number (800) 638-2041 or (301) 796-7100 or at its Internet address http://www.fda.gov/MedicalDevices/ResourcesforYou/Industry/default.htm.

Sincerely yours,

Kellie B. Kelm -S

for Courtney H. Lias, Ph.D.
Director
Division of Chemistry and Toxicology Devices
Office of In Vitro Diagnostics
and Radiological Health
Center for Devices and Radiological Health

Enclosure

DEPARTMENT OF HEALTH AND HUMAN SERVICES
Food and Drug Administration

Indications for Use

Form Approved: OMB No. 0910-0120
Expiration Date: 06/30/2020
See PRA Statement below.

510(k) Number *(if known)*
k172133

Device Name
ADVIA Centaur Active-B12 (Holotranscobalamin)(AB12) assay

Indications for Use *(Describe)*
The ADVIA Centaur Active-B12 (Holotranscobalamin)(AB12) assay is for in vitro diagnostic use in the quantitative measurement of holotranscobalamin (holoTC) in human serum using the ADVIA Centaur XP system. Active-B12 (holotranscobalamin) is used as an aid in the diagnosis and treatment of vitamin B12 deficiency.

Type of Use *(Select one or both, as applicable)*

☒ Prescription Use (Part 21 CFR 801 Subpart D) ☐ Over-The-Counter Use (21 CFR 801 Subpart C)

CONTINUE ON A SEPARATE PAGE IF NEEDED.

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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 k172133

Submission correspondent:

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510k summary prepared date: 25th October 2017

Device Name:

ADVIA Centaur® Active-B12 (Holotranscobalamin) (AB12) Assay

Reagents:

Classification Name: Vitamin B12 test system
Trade Name: ADVIA Centaur® Active-B12 (Holotranscobalmin) (AB12) assay
Common Name: B12 test
Governing Regulation: 21CFR 862.1810 Device
Classification: Class II
Classification Panel: Clinical Chemistry
Product Code: CDD

Legally marketed device to which equivalency is claimed:

ADVIA Centaur Active-B12 (Holotranscobalamin) (AB12) assay, K160757

Intended Use of Device:

The ADVIA Centaur Active-B12 (Holotranscobalamin) (AB12) assay is for in vitro diagnostic use in the quantitative measurement of holotranscobalamin (holoTC) in human serum using the ADVIA Centaur XP system. Active-B12 (holotranscobalamin) is used as an aid in the diagnosis and treatment of vitamin B12 deficiency.

Description of Device:

The ADVIA Centaur AB12 assay is a fully automated, two-step direct immunoassay using chemiluminescent technology. The assay utilizes an acridinium ester-labeled anti-transcobalamin antibody as the Lite Reagent. The Solid Phase consists of biotinylated anti-holotranscobalamin antibody coupled to streptavidin-coated magnetic latex microparticles.

Comparison of Technological Characteristics:

The modified ADVIA Centaur AB12 assay is being compared to the cleared ADVIA Centaur AB12 assay (k160757) for the quantitative measurement of holotranscobalamin (holoTC) in human serum.

Modification of Device:

The special 510k modification ADVIA Centaur AB12 assay consisted of a change to the calibration to be traceable to the WHO International Standard for Holotranscobalamin.

Comparison of the subject device with the predicate device:

The modified ADVIA Centaur® AB12 assay is being compared to the cleared ADVIA Centaur® AB12 assay (k160757).

Parameter	NEW ADVIA Centaur®AB12 (Modified Device)	PREDICATE ADVIA Centaur®AB12 (K160757 cleared device)
Intended use	Same	For *in vitro* diagnostic use in the quantitative measurement of holotranscobalamin (holoTC) in human serum using the ADVIA Centaur XP system. Active-B12 (holotranscobalamin) is used as an aid in the diagnosis and treatment of vitamin B12 deficiency.
Assay Technology / System	Same	Chemiluminescent microparticle immunoassay ADVIA Centaur XP/XPT system
Reagents	Same	Lite Reagent: anti-transcobalamin (TC) monoclonal Ab 3-11 (0.5 µg/mL) labeled with acridinium ester in buffer with surfactant and preservatives Solid Phase Reagent: streptavidin coated paramagnetic mP preformed with biotinylated anti-holoTC monoclonal antibody 3C4 (~0.4 mg/mL) in buffer with surfactant
Calibration	Same	2-point Calibration using 2 level calibrators
Calibration Range	Same	0 to 146.0 pmol/L
Calibration Frequency	Same	44 days
Levels	Same	2 Levels Low – 19 pmol/L High – 121 pmol/L
Fill volume	Same	4.0 mL
Calibration Materials Formulation/ Matrix	Same	recombinant holotranscobalamin, bovine serum albumin and sodium azide (< 0.1%)
Standardization	World Health Organization (WHO) International Standard for holotranscobalamin; NIBSC Code 03/178	Internal reference material; recombinant holotranscobalamin and phosphate buffer with protein (bovine) stabilizers
Traceability of calibration materials	WHO International Standard NIBSC Code 03/178	Internal (in-house) reference standard

Parameter	NEW ADVIA Centaur®AB12 (Modified Device)	PREDICATE ADVIA Centaur®AB12 (K160757 cleared device)
Expected Values in Asymptomatic Population	The mean holoTC concentration for the group was established at 90.24 pmol/L with a 95% central reference interval from 27.24 to 169.62 pmol/L	The mean holoTC concentration for the group was established at 81.91 pmol/L with a 95% central reference interval from 28.96 to 168.90 pmol/L
Analytical measuring range	Same	5.0 to 146.0 pmol/L
Limit of Quantitation	Same	5.0 pmol/L
Quality Controls: Level 1 (Low) Control	Same	15.60 pmol/L
Quality Controls: Level 2 (High) Control	Same	60.40 pmol/L

Summary of Non-Clinical Performance

Based on the risk analysis, the modifications to the Active-B12 (Holotranscobalamin) (AB12) assay could affect the accuracy, linearity, precision, and detection limits of the assay as well as the reference range.

Verification, validation and testing activities were conducted to establish performance of the modified device, which included:

Accuracy by correlation
Dilution Linearity
20-day precision – repeatability and within-run
Detection capability - Limit of blank / detection / quantification
Dilution recovery of WHO IRP (NIBSC 03/178)
Proficiency sample testing
Reference range / expected value for asymptomatic population

The device passed all of the tests based on pre-determined Pass/Fail criteria.

Conclusion:

The results presented in this 510(k) premarket submission demonstrate that the candidate assay (ADVIA Centaur® Active-B12 (Holotranscobalamin)(AB12) assay is substantially equivalent to the predicate device.

Substantial equivalence of the modified device, ADVIA Centaur AB12 assay is claimed to the predicate device cleared in k160757. The modification to the assay calibration has not changed the intended use, as described in the labelling, nor has it altered the fundamental assay technology of the device.