



Roche Molecular Systems, Inc.
Nobuko Nakajima
Director, Regulatory Affairs
4300 Hacienda Drive
Pleasanton, California 94588-2722

December 5, 2019

Re: DEN190016

Trade/Device Name: cobas vivoDx MRSA

Regulation Number: 21 CFR 866.1655

Regulation Name: System for detection of microorganisms and antimicrobial resistance using reporter expression

Regulatory Class: Class II

Product Code: QIV

Dated: March 18, 2019

Received: March 19, 2019

Dear Nobuko Nakajima:

The Center for Devices and Radiological Health (CDRH) of the Food and Drug Administration (FDA) has completed its review of your De Novo request for classification of cobas vivoDx MRSA, a prescription device with the following indications for use:

cobas vivoDx MRSA:

The cobas vivoDx MRSA test performed on the cobas vivoDx System is an automated qualitative *in vitro* diagnostic test for the direct detection of live methicillin-resistant *Staphylococcus aureus* (MRSA) cells in nasal swab samples from patients who are at risk for nasal colonization by MRSA. The test utilizes selective agents and bioparticles (Smarticles technology) to introduce a luciferase gene into targeted bacteria to create an amplified luminescent signal in only viable (live) MRSA cells. The cobas vivoDx MRSA test is intended to aid in the prevention and control of MRSA infections in healthcare settings. It is not intended to diagnose MRSA infections, nor to guide, or monitor treatment. Concomitant cultures are necessary to recover organisms for epidemiological typing or for further susceptibility testing.

cobas vivoDx MRSA Collection and Transport Kit:

The cobas vivoDx MRSA Collection and Transport Kit is used to collect, transport and store human nasal swab specimens for use with the cobas vivoDx MRSA test.

Although this letter refers to your product as a device, please be aware that some granted products may instead be combination products. If you have questions on whether your product is a combination product, contact CDRHProductJurisdiction@fda.hhs.gov. FDA concludes that this device should be classified into Class II. This order, therefore, classifies cobas vivoDx MRSA, and substantially equivalent devices of this

generic type, into Class II under the generic name system for detection of microorganisms and antimicrobial resistance using reporter expression.

FDA identifies this generic type of device as:

System for detection of microorganisms and antimicrobial resistance using reporter expression.

A system for detection of microorganisms and antimicrobial resistance using reporter expression is an in vitro diagnostic device intended for the detection and identification of live microorganisms and the detection of associated antimicrobial drug susceptibility or resistance in specimens from patients at risk of colonization or suspected of infection.

Section 513(f)(2) of the Food, Drug and Cosmetic Act (the FD&C Act) was amended by section 607 of the Food and Drug Administration Safety and Innovation Act (FDASIA) on July 9, 2012. This law provides two options for De Novo classification. First, any person who receives a "not substantially equivalent" (NSE) determination in response to a 510(k) for a device that has not been previously classified under the Act may request FDA to make a risk-based classification of the device under section 513(a)(1) of the Act. On December 13, 2016, the 21st Century Cures Act removed a requirement that a De Novo request be submitted within 30 days of receiving an NSE determination. Alternatively, any person who determines that there is no legally marketed device upon which to base a determination of substantial equivalence may request FDA to make a risk-based classification of the device under section 513(a)(1) of the Act without first submitting a 510(k). FDA shall, within 120 days of receiving such a request, classify the device. This classification shall be the initial classification of the device. Within 30 days after the issuance of an order classifying the device, FDA must publish a notice in the Federal Register announcing the classification.

On March 19, 2019, FDA received your De Novo requesting classification of cobas vivoDx MRSA. The request was submitted under section 513(f)(2) of the FD&C Act. In order to classify cobas vivoDx MRSA into class I or II, it is necessary that the proposed class have sufficient regulatory controls to provide reasonable assurance of the safety and effectiveness of the device for its intended use. After review of the information submitted in the De Novo request, FDA has determined that, for the previously stated indications for use, cobas vivoDx can be classified in class II with the establishment of special controls for class II. FDA believes that class II (special) controls provide reasonable assurance of the safety and effectiveness of the device type. The identified risks and mitigation measures associated with the device type are summarized in the following table:

Identified Potential Risks	Mitigation Measures
Failure to use the device correctly	Certain labeling information identified in special controls (1) and (3) Certain design verification and validation identified in special control (4)(vii)
False positive or negative results	Certain labeling information identified in special controls (1) and (3) Use of certain specimen collection and transport devices identified in special control (2) Certain design verification and validation identified in special control (4)
Failure to interpret results correctly	Certain labeling information identified in special controls (1) and (3) Certain design verification and validation identified in special control (4)(vii)

In combination with the general controls of the FD&C Act, the system for detection of microorganisms and antimicrobial resistance using reporter expression is subject to the following special controls:

- (1) The intended use for the device in the labeling required under 21 CFR 809.10 must include a detailed description of the targets the device detects, the type of results provided to the user, the clinical indications appropriate for test use, and the specific population(s) for which the device is intended.
- (2) Any device used for specimen collection and transport must be FDA-cleared, -approved, or -classified as 510(k) exempt (standalone or as part of a test system) for the collection of the specimen types claimed by this device and for the maintenance of viability of the targeted microorganisms; alternatively, the specimen collection device must be cleared in a premarket submission as a part of this device.
- (3) The labeling required under 21 CFR 809.10(b) must include:
 - (i) A detailed description of the device, including reagents, instruments, ancillary materials, applicable specimen collection and transport device(s) and control elements, and a detailed explanation of the methodology, including all pre-analytical methods for handling and processing of specimens and controls to maintain organism viability;
 - (ii) Detailed descriptions of the test procedure, including the preparation and maintenance of quality controls and the interpretation of test results;
 - (iii) Detailed discussion of the performance characteristics of the device for all claimed organisms and specimen types based on analytical studies, including evaluation of analytical sensitivity, inclusivity, cross-reactivity, potentially interfering substances and microorganisms, contamination, specimen stability, precision, and reproducibility;

- (iv) Detailed discussion of the performance characteristics of the device observed in a clinical study performed on a population that is consistent with the intended use population in comparison to the results obtained by a reference or comparator method determined to be acceptable by FDA, for microbial detection, identification, and antimicrobial susceptibility testing.
 - (v) A limiting statement indicating that a negative test result does not preclude colonization or infection with organisms that do not express detectable levels of the reporter that is identified by the device.
- (4) Design verification and validation must include:
- (i) A detailed description of the device, including an explanation of the technology, hardware, software, and consumables, as well as an explanation of the result algorithms and method(s) of data processing from signal acquisition to result assignment;
 - (ii) A detailed description of the impact of any software, including software applications and hardware-based devices that incorporate software, on the device's functions;
 - (iii) Detailed documentation of the analytical and clinical studies required in paragraphs (3)(iii) and (3)(iv), including the study protocols containing descriptions of the test methods, prescribed methods of data analysis and acceptance criteria, final study reports, and data line listings;
 - (iv) Detailed documentation of quality control procedures, including an explanation of how quality control materials were selected, the recommended frequency of testing, methods of control preparation, acceptance criteria for performance and the results from quality control testing performed during the analytical and clinical studies required under paragraphs (3)(iii) and (3)(iv);
 - (v) Detailed documentation of studies performed to establish on-board and in-use reagent stability, including the test method(s), data analysis plans, acceptance criteria, final study reports, and data line listings;
 - (vi) Detailed documentation of studies to establish reagent shelf-life for the assay kit and each applicable specimen collection and transport device, including study protocols containing descriptions of the test method(s), data analysis plans, and acceptance criteria.
 - (vii) Documentation of an appropriate end user device training program that will be offered as part of efforts to assure appropriate conduct of the assay and to mitigate the risk associated with false results, including failure to use the device correctly or correctly interpret results.

Section 510(m) of the FD&C Act provides that FDA may exempt a class II device from the premarket notification requirements under section 510(k) of the FD&C Act, if FDA determines that premarket notification is not necessary to provide reasonable assurance of the safety and effectiveness of the device type. FDA has determined premarket notification is necessary to provide reasonable assurance of the safety and effectiveness of the device type and, therefore, the device is not exempt from the premarket notification requirements of the FD&C Act. Thus, persons who intend to market this device type must submit a premarket notification containing information on the system for detection of microorganisms and antimicrobial resistance using reporter expression they intend to market prior to marketing the device.

Please be advised that FDA's decision to grant this De Novo request does not mean that FDA has made a determination that your device complies with other requirements of the FD&C Act or any Federal statutes

and regulations administered by other Federal agencies. You must comply with all the FD&C 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) for devices or postmarketing safety reporting (21 CFR 4, Subpart B) for combination products (see <https://www.fda.gov/combination-products/guidance-regulatory-information/postmarketing-safety-reporting-combination-products>); good manufacturing practice requirements as set forth in the quality systems (QS) regulation (21 CFR Part 820) for devices or current good manufacturing practices (21 CFR 4, Subpart A) for combination products; and if applicable, the electronic product radiation control provisions (Sections 531-542 of the FD&C Act); 21 CFR 1000-1050.

A notice announcing this classification order will be published in the Federal Register. A copy of this order and supporting documentation are on file in the Dockets Management Branch (HFA-305), Food and Drug Administration, 5630 Fishers Lane, Room 1061, Rockville, MD 20852 and are available for inspection between 9 a.m. and 4 p.m., Monday through Friday.

As a result of this order, you may immediately market your device as described in the De Novo request, subject to the general control provisions of the FD&C Act and the special controls identified in this order.

For comprehensive regulatory information about medical devices and radiation-emitting products, please see Device Advice (<https://www.fda.gov/medical-devices/device-advice-comprehensive-regulatory-assistance>) and CDRH Learn (<https://www.fda.gov/training-and-continuing-education/cdrh-learn>). Additionally, you may contact the Division of Industry and Consumer Education (DICE) to ask a question about a specific regulatory topic. See the DICE website (<https://www.fda.gov/medical-devices/device-advice-comprehensive-regulatory-assistance/contact-us-division-industry-and-consumer-education-dice>) for more information or contact DICE by email (DICE@fda.hhs.gov) or phone (1-800-638-2041 or 301-796-7100).

If you have any questions concerning the contents of the letter, please contact Tobin Hellyer at 301-796-6154.

Sincerely,

Uwe Scherf, M.Sc., Ph.D.
Director, Division of Microbiology Devices
OHT7: Office of In Vitro Diagnostics
and Radiological Health
Office of Product Evaluation and Quality
Center for Devices and Radiological Health