Date: January 23, 2019

Hologic, Inc.
Jeffrey Hergesheimer
Regulatory Affairs Manager
10210 Genetic Center Drive
San Diego, California 92121

Re: DEN180047
Trade/Device Name: Aptima Mycoplasma genitalium Assay
Regulation Number: 21 CFR 866.3393
Regulation Name: Device to detect nucleic acids from non-viral microorganism(s) causing sexually transmitted infections and associated resistance marker(s)
Regulatory Class: Class II
Product Code: QEP
Dated: August 30, 2018
Received: August 31, 2018

Dear Jeffrey Hergesheimer:

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 the Aptima Mycoplasma genitalium Assay, a prescription device with the following indications for use:

> The Aptima Mycoplasma genitalium assay is an *in vitro* nucleic acid amplification test (NAAT) for the qualitative detection of ribosomal RNA (rRNA) from *Mycoplasma genitalium* on the fully automated Panther system. It is intended for use as an aid in the diagnosis of *M. genitalium* urogenital infections in male and female patients suspected of *M. genitalium* infection.
>
> The assay may be used to test the following specimens: clinician-collected and self-collected vaginal swabs (in a clinical setting), clinician-collected endocervical swabs, female and male urine, clinician-collected male urethral swabs, and self-collected penile meatal swabs (in a clinical setting).
>
> For females, a vaginal swab is the preferred specimen type due to higher clinical sensitivity for detecting *M. genitalium* than other specimen types; however, female urine or clinician-collected endocervical swabs may be used as alternative specimens when vaginal swab specimens are not available. If female urine or clinician-collected endocervical swab specimens test negative, testing with a vaginal swab may be indicated, if *M. genitalium* infection is suspected.

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 the Aptima Mycoplasma genitalium Assay, and substantially equivalent devices of this generic type, into Class II under the generic name device to detect nucleic acids from non-viral microorganism(s) causing sexually transmitted infections and associated resistance marker(s).

FDA identifies this generic type of device as:

> **Device to detect nucleic acids from non-viral microorganism(s) causing sexually transmitted infections and associated resistance marker(s)**. A device to detect nucleic acids from non-viral microorganism(s) causing sexually transmitted infections and associated resistance marker(s) is an *in vitro* diagnostic device intended for the detection and identification of nucleic acids from non-viral microorganism(s) and their associated resistance markers in clinical specimens collected from patients suspected of sexually transmitted infections. The device is intended to aid in the diagnosis of non-viral sexually transmitted infections in conjunction with other clinical and laboratory data. These devices do not provide confirmation of antibiotic susceptibility since mechanisms of resistance may exist that are not detected by the device.

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 August 31, 2018, FDA received your De Novo requesting classification of the Aptima Mycoplasma genitalium Assay. The request was submitted under section 513(f)(2) of the FD&C Act. In order to classify the Aptima Mycoplasma genitalium Assay 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, the Aptima Mycoplasma genitalium Assay 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 Risks to Health	Mitigation Measures
Risk of false results	General controls and Special Controls (1), (2), (3), and (4)
Failure to correctly interpret test results	General Controls and Special Controls (1), (3)(iii), (3)(iv), and 3(v)
Failure to correctly operate the device	General Controls and Special Controls (1),

Identified Risks to Health	Mitigation Measures
	(3)(i), and (4)

In combination with the general controls of the FD&C Act, the Device to detect nucleic acids from non-viral microorganism(s) causing sexually transmitted infections and associated resistance marker(s) is subject to the following special controls:

Special Controls

(1) The intended use for the 21 CFR 809.10 labeling must include a detailed description of targets the device detects, the 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 sample collection device used must be FDA-cleared, -approved, or -classified as 510(k) exempt (standalone or as part of a test system) for the collection of specimen types claimed by this device; alternatively, the sample collection device must be cleared in a premarket submission as a part of this device.

(3) The 21 CFR 809.10(b) labeling must include:

(i) A detailed device description, including reagents, instruments, ancillary materials, all control elements, and a detailed explanation of the methodology, including all pre-analytical methods for processing of specimens;

(ii) Detailed discussion of the performance characteristics of the device for all claimed specimen types based on analytical studies, including, but not limited to, Limit of Detection, inclusivity, cross-reactivity, interfering substances, competitive inhibition, carryover/cross contamination, specimen stability, with-in lab precision, and reproducibility, as appropriate;

(iii) Detailed descriptions of the test procedure, the interpretation of test results for clinical specimens, and acceptance criteria for any quality control testing.

(iv) Limiting statements indicating that:

(A) a negative test result does not preclude the possibility of infection;

(B) the test results should be interpreted in conjunction with other clinical and laboratory data available to the clinician;

(C) reliable results are dependent on adequate specimen collection, transport, storage, and processing. Failure to observe proper procedures in any one of these steps can lead to incorrect results; and

Special Controls

(D) if appropriate (e.g., recommended by CDC, by current well-accepted clinical guidelines, or by published peer reviewed research), that the clinical performance is inferior in a specific clinical subpopulation or for a specific claimed specimen type.

(v) If the device is intended to detect antimicrobial resistance markers, limiting statements, as appropriate, indicating that:

(A) negative results for claimed resistance markers do not indicate susceptibility of detected microorganisms, as resistance markers not measured by the assay or other potential mechanisms of antibiotic resistance may be present;

(B) detection of resistance markers cannot be definitively linked to specific microorganisms and the source of a detected resistance marker may be an organism not detected by the assay, including colonizing flora;

(C) detection of antibiotic resistance markers may not correlate with phenotypic gene expression; and

(D) therapeutic failure or success cannot be determined based on the assay results, since nucleic acid may persist following appropriate antimicrobial therapy.

(4) Design verification and validation must include:

(i) Detailed device description documentation, including, but not limited to, methodology from obtaining sample to result, design of primer/probe sequences, rationale for target sequence selection, and computational path from collected raw data to reported result (e.g., how collected raw signals are converted into a reported result).

(ii) Detailed documentation of analytical studies including but not limited to, Limit of Detection, inclusivity, cross-reactivity, microbial interference, interfering substances, competitive inhibition, carryover/cross contamination, specimen stability, with-in lab precision, and reproducibility, as appropriate.

(iii) Detailed documentation and performance results from a clinical study that includes prospective (sequential) samples for each claimed specimen type and, when determined to be appropriate by FDA, additional characterized clinical samples. The study must be performed on a study population consistent with the intended use population and compare the device performance to results obtained from FDA accepted comparator methods. Documentation from the clinical studies must include the clinical study protocol (including a predefined statistical analysis plan) study report, testing results, and results of all statistical analyses.

Special Controls

(iv) A detailed description of the impact of any software, including, but not limited to, software applications and hardware-based devices that incorporate software, on the device's functions.

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 Device to detect nucleic acids from non-viral microorganism(s) causing sexually transmitted infections and associated resistance marker(s) 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 Part 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/CombinationProducts/GuidanceRegulatoryInformation/ucm597488.htm); 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/MedicalDevices/DeviceRegulationandGuidance/) and CDRH Learn (http://www.fda.gov/Training/CDRHLearn). 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 (http://www.fda.gov/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 Himani Bisht at 301-796-6189.

Sincerely,

Uwe Scherf -S

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