



October 26, 2021

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Hologic, Inc.
10210 Genetic Center Drive
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Device: Aptima SARS-CoV-2/Flu assay

EUA Number: EUA202959

Company: Hologic, Inc.

Indication: An automated multiplexed target nucleic acid amplification test intended for the simultaneous *in vitro* qualitative detection and differentiation of RNA from SARS-CoV-2 virus, influenza A virus (Flu A) and/or influenza B virus (Flu B) isolated and purified from clinician-collected nasopharyngeal (NP) and anterior nasal (nasal) swab specimens and patient-collected anterior nasal swab specimens in a healthcare setting obtained from individuals suspected of respiratory viral infection consistent with COVID-19 by their healthcare provider.

Emergency use of this test is limited to authorized laboratories.

Authorized Laboratories: Laboratories certified under the Clinical Laboratory Improvement Amendments of 1988 (CLIA), 42 U.S.C. §263a, that meet requirements to perform high complexity tests.

Dear Dr. Chen:

On December 16, 2020, based on your¹ request, the Food and Drug Administration (FDA) issued a letter authorizing the use of the Aptima SARS-CoV-2/Flu assay for the simultaneous *in vitro* qualitative detection and differentiation of RNA from SARS-CoV-2 virus, influenza A virus (Flu A) and/or influenza B virus (Flu B) isolated and purified from nasopharyngeal (NP) nasal, and mid-turbinate swab specimens obtained from individuals suspected of respiratory viral infection consistent with COVID-19 by their healthcare provider, pursuant to Section 564 of the Federal Food, Drug, and Cosmetic Act (the Act) (21 U.S.C. §360bbb-3). Testing was limited to laboratories certified under the Clinical Laboratory Improvement Amendments of 1988 (CLIA), 42 U.S.C. §263a, that meet requirements to perform high complexity tests. Based

¹ For ease of reference, this letter will use the term “you” and related terms to refer to Hologic, Inc.

on your request, FDA granted an update to your EUA on February 24, 2021.² In addition, FDA established additional Conditions of Authorization in response to the continued emergence of new variants of SARS-CoV-2 on September 23, 2021.³

On August 3, 2021, you requested to revise your Emergency Use Authorization (EUA). Based on that request, and having concluded that revising the December 16, 2020, EUA is appropriate to protect the public health or safety under section 564(g)(2)(C) of the Act (21 U.S.C. § 360bbb-3(g)(2)(C)), FDA is reissuing the December 16, 2020, letter in its entirety with the revisions incorporated.⁴ Accordingly, your product⁵ is hereby authorized pursuant to section 564 of the Act when used pursuant to the Scope of Authorization (Section II) and Conditions of Authorization (Section IV) of this reissued letter.

On February 4, 2020, pursuant to Section 564(b)(1)(C) of the Act, the Secretary of the Department of Health and Human Services (HHS) determined that there is a public health emergency that has a significant potential to affect national security or the health and security of United States citizens living abroad, and that involves the virus that causes COVID-19. Pursuant to Section 564 of the Act, and on the basis of such determination, the Secretary of HHS then declared that circumstances exist justifying the authorization of emergency use of in vitro diagnostics for detection and/or diagnosis of the virus that causes COVID-19 subject to the terms of any authorization issued under Section 564(a) of the Act.⁶

FDA considered the totality of scientific information available in authorizing the emergency use of your product for the indication above. A summary of the performance information FDA relied upon is contained in the “Aptima SARS-CoV-2/Flu Assay (Panther System)” Instructions for Use (identified below). There is an FDA-approved/cleared test for the qualitative detection and identification of SARS-CoV-2, influenza A virus and influenza B virus, along with some

² On February 24, 2021, FDA reviewed and accepted the results of inclusivity and specimen stability studies required in the Conditions of Authorization of the December 16, 2020, letter.

³ The Viral Mutation Revision Letter – September 23, 2021, can be accessed at:

<https://www.fda.gov/media/152406/download>.

⁴ The revisions to the December 16, 2020, letter and authorized labeling include: 1) modification of the intended use to remove mid-turbinate swab specimens as an authorized specimen type, 2) modification of the Promotor Reagent formulation, 3) addition of three new specimen collection kits (Hologic Direct Load Tube Collection Kit, Hologic Direct Load Capture Cap Collection Kit – CLASSIQSwabs, and Hologic Direct Load Capture Cap Collection Kit – FLOQSwabs), 4) extension of the shelf-life of the assay to 8 months, 5) modification of the number of extractions that can be performed with the Hologic Specimen Lysis Tube (PRD-06660) from two to one extraction, 6) inclusion of product information cards (PICs) in shipped assay and control kits, 7) updates to the Conditions of Authorization to remove Conditions Q and R of the December 16, 2020, letter (fulfilled) and to add a new Condition for a required stability study (Condition R below) and incorporate Conditions of Authorization (2) and (3) from the Viral Mutation Revision Letter – September 23, 2021 (Conditions T and U, below), 8) update the Letter of Authorization to include information about assay controls, and 9) updates to the assay Instructions for Use (IFU), the Conditions of Authorization and Fact Sheets for Healthcare Providers and Patients to reflect language used in more recent authorizations, including update authorized labeling to fulfill Condition of Authorization (1) in the Viral Mutation Revision Letter – September 23, 2021.

⁵ For ease of reference, this letter will use the term “your product” to refer to the Aptima SARS-CoV-2/Flu assay used for the indication identified above.

⁶ U.S. Department of Health and Human Services, *Determination of a Public Health Emergency and Declaration that Circumstances Exist Justifying Authorizations Pursuant to Section 564(b) of the Federal Food, Drug, and Cosmetic Act*, 21 U.S.C. § 360bbb-3. 85 FR 7316 (February 7, 2020).

other organism types and subtypes not targeted by your product, but this is not an adequate and available alternative to your product. Respiratory infections caused by the influenza A and B viruses and SARS-CoV-2 can have similar clinical presentation and diagnostic considerations. Thus, to differentially detect SARS-CoV-2, information from a test that detects and differentiates the virus that causes COVID-19 and the common influenza viruses that cause seasonal epidemics of flu, influenza A and B (not influenza C) is needed during the flu season that coincides with the COVID-19 pandemic.

Having concluded that the criteria for issuance of this authorization under Section 564(c) of the Act are met, I am authorizing the emergency use of your product, described in the Scope of Authorization of this letter (Section II), subject to the terms of this authorization.

I. Criteria for Issuance of Authorization

I have concluded that the emergency use of your product meets the criteria for issuance of an authorization under Section 564(c) of the Act, because I have concluded that:

1. The SARS-CoV-2 can cause a serious or life-threatening disease or condition, including severe respiratory illness, to humans infected by this virus;
2. Based on the totality of scientific evidence available to FDA, it is reasonable to believe that your product may be effective in diagnosing COVID-19 through the simultaneous detection and differentiation of SARS-CoV-2, influenza A virus, and/or influenza B virus nucleic acids, and that the known and potential benefits of your product when used for such a use, outweigh the known and potential risks of your product; and
3. There is no adequate, approved, and available alternative to the emergency use of your product.⁷

II. Scope of Authorization

I have concluded, pursuant to Section 564(d)(1) of the Act, that the scope of this authorization is limited to the indication above.

Authorized Product Details

Your product is an automated multiplexed target nucleic acid amplification test intended for the simultaneous *in vitro* qualitative detection and differentiation of RNA from SARS-CoV-2 virus, influenza A virus (Flu A) and/or influenza B virus (Flu B) isolated and purified from clinician-collected nasopharyngeal (NP), and anterior nasal (nasal) swab specimens and patient-collected anterior nasal swab specimens in a healthcare setting obtained from individuals suspected of respiratory viral infection consistent with COVID-19 by their healthcare provider. Emergency use of this test is limited to authorized laboratories certified under CLIA that meet requirements to perform high complexity tests.

⁷ No other criteria of issuance have been prescribed by regulation under Section 564(c)(4) of the Act.

Results are for the identification of SARS-CoV-2, Flu A and/or Flu B RNA. Your product is not intended to detect influenza C. SARS-CoV-2, Flu A and/or Flu B RNA are generally detectable in nasopharyngeal (NP) and anterior nasal (nasal) swab specimens during the acute phase of infection. Positive results are indicative of active infection but do not rule out bacterial infection or co-infection with other pathogens not detected by the test. Clinical correlation with patient history and other diagnostic information is necessary to determine patient infection status. Negative results do not preclude SARS-CoV-2, Flu A or Flu B infection and should not be used as the sole basis for patient management decisions. Negative results must be combined with clinical observations, patient history, and epidemiological information.

Your product combines the technologies of target capture, reverse transcription-transcription mediated amplification, and real time detection of amplicons. The test is performed on the Panther and Panther Fusion system, which is an integrated nucleic acid testing system that fully automates all steps necessary to perform various Panther Fusion assays from sample processing through amplification, detection, and data reduction. The Aptima SARS-CoV-2/Flu assay includes the following materials: Aptima SARS-CoV-2/Flu Refrigerated Box (Aptima SARS-CoV-2/Flu Amplification Reagent, Aptima SARS-CoV-2/Flu Enzyme Reagent, Aptima SARS-CoV-2/Flu Promotor Reagent, Internal Control), Aptima SARS-CoV-2/Flu Room Temperature Box (Aptima SARS-CoV-2/Flu Amplification Reconstitution Solution, Aptima SARS-CoV-2/Flu Enzyme Reconstitution Solution, Aptima SARS-CoV-2/Flu Promotor Reconstitution Solution, Aptima SARS-CoV-2/Flu Target Capture Reagent) Reconstitution Collars and master Barcode Sheet.

Your product requires positive and negative controls which are not included in the kit but are available from you with the Control Product Information Card (PIC) or other authorized control materials (as may be requested under Condition L below), that are processed in the same way as the patient samples and are required to be included with each batch of specimens tested with your product. All controls listed below must generate expected results in order for a test to be considered valid, as outlined in the Instructions for Use:

- Internal Control – non-infectious RNA nucleic acid in a buffered solution added to each specimen reaction and must be detected in all samples that are negative for SARS-CoV-2 and flu targets.
- Positive Control – non-infectious nucleic acid in a buffered solution containing less than 5% detergent. The positive control must provide a positive result.
- Negative Control – buffered solution containing less than 5% detergent. The negative control must provide a negative result.

Your product also requires the use of additional authorized materials and authorized ancillary reagents that are not included with your product and are described in the Instructions for Use.

The labeling entitled “Aptima SARS-CoV-2/Flu Assay (Panther System)” Instructions for Use (available at <https://www.fda.gov/medical-devices/coronavirus-disease-2019-covid-19-emergency-use-authorizations-medical-devices/in-vitro-diagnostics-euas>), the Aptima SARS-CoV-2/Flu Assay Product Information Card, the Control Kit Product Information Card and the following product-specific information pertaining to the emergency use, is required to be made available as set forth in the Conditions of Authorization (Section IV), and are collectively referred to as “authorized labeling.”

- Fact Sheet for Healthcare Providers: Hologic, Inc. - Aptima SARS-CoV-2/Flu assay
- Fact Sheet for Patients: Hologic, Inc. - Aptima SARS-CoV-2/Flu assay

The above described product, when accompanied by the authorized labeling provided as set forth in the Conditions of Authorization (Section IV), is authorized to be distributed to and used by authorized laboratories under this EUA, despite the fact that it does not meet certain requirements otherwise required by applicable federal law.

The following collection kits, which you recommend be used with the Aptima SARS-CoV2/Flu assay and are available separately, are authorized to be distributed and used as set forth in this EUA: 1) the Hologic Direct Load Capture Cap Collection Kit — CLASSIQSwabs when accompanied by the “Hologic Direct Load Capture Cap Collection Kit — CLASSIQSwabs” Instructions for Use, 2) Hologic Direct Load Tube Collection Kit when accompanied by the “Hologic Direct Load Tube Collection Kit” Instructions for Use, and 3) Hologic Direct Load Capture Cap Collection Kit — FLOQSwabs when accompanied by the “Hologic Direct Load Capture Cap Collection Kit — FLOQSwabs” Instructions for Use.

I have concluded, pursuant to Section 564(d)(2) of the Act, that it is reasonable to believe that the known and potential benefits of your product, when used consistent with the Scope of Authorization of this letter (Section II), outweigh the known and potential risks of your product.

I have concluded, pursuant to Section 564(d)(3) of the Act, based on the totality of scientific evidence available to FDA, that it is reasonable to believe that your product may be effective in diagnosing COVID-19, when used consistent with the Scope of Authorization of this letter (Section II), pursuant to Section 564(c)(2)(A) of the Act.

FDA has reviewed the scientific information available to FDA, including the information supporting the conclusions described in Section I above, and concludes that your product (as described in the Scope of Authorization of this letter (Section II)) meets the criteria set forth in Section 564(c) of the Act concerning safety and potential effectiveness.

The emergency use of your product under this EUA must be consistent with, and may not exceed, the terms of this letter, including the Scope of Authorization (Section II) and the Conditions of Authorization (Section IV). Subject to the terms of this EUA and under the circumstances set forth in the Secretary of HHS's determination under Section 564(b)(1)(C) of the Act described above and the Secretary of HHS's corresponding declaration under Section 564(b)(1) of the Act, your product is authorized for the indication above.

III. Waiver of Certain Requirements

I am waiving the following requirements for your product during the duration of this EUA:

- Current good manufacturing practice requirements, including the quality system requirements under 21 CFR Part 820 with respect to the design, manufacture, packaging, labeling, storage, and distribution of your product, but excluding Subpart H (Acceptance Activities, 21 CFR 820.80 and 21 CFR 820.86), Subpart I

(Nonconforming Product, 21 CFR 820.90), and Subpart O (Statistical Techniques, 21 CFR 820.250).

IV. Conditions of Authorization

Pursuant to Section 564(e) of the Act, I am establishing the following conditions on this authorization:

Hologic, Inc. (You) and Authorized Distributor(s)⁸

- A. Your product must comply with the following labeling requirements under FDA regulations: the intended use statement (21 CFR 809.10(a)(2), (b)(2)); adequate directions for use (21 U.S.C. 352(f)), (21 CFR 809.10(b)(5), (7), and (8)); appropriate limitations on the use of the device including information required under 21 CFR 809.10(a)(4); and any available information regarding performance of the device, including requirements under 21 CFR 809.10(b)(12).
- B. You and authorized distributor(s) must make your product available with the authorized labeling to authorized laboratories.
- C. You and authorized distributor(s) must make available on your website(s) the Fact Sheet for Healthcare Providers and the Fact Sheet for Patients.
- D. You and authorized distributor(s) must include the Aptima SARS-CoV-2 product information card with each shipped Aptima SARS-CoV-2/Flu Assay, and the Control Product Information Card with each Aptima SARS-CoV-2/Flu Controls Kit to authorized laboratories and will make the authorized “Aptima SARS-CoV-2 Assay (Panther System)” Instructions for Use electronically available with the opportunity to request a copy in paper form, and after such request, you must promptly provide the requested information without additional cost.
- E. You and authorized distributor(s) must inform authorized laboratories and relevant public health authorities of this EUA, including the terms and conditions herein, and any updates made to your product and authorized labeling.
- F. Through a process of inventory control, you and authorized distributor(s) must maintain records of the authorized laboratories to which they distribute your product and number they distribute.
- G. You and authorized distributor(s) must collect information on the performance of your product. You will report to the Division of Microbiology (DMD)/Office of Health Technology 7 (OHT7)-Office of In Vitro Diagnostics and Radiological Health (OIR)/Office of Product Evaluation and Quality (OPEQ)/Center for Devices and Radiological Health (CDRH) any suspected occurrence of false positive or false

⁸ “Authorized Distributor(s)” are identified by you, Hologic, Inc., in your EUA submission as an entity allowed to distribute your product.

negative results and significant deviations from the established performance characteristics of the product of which you become aware.

- H. You and authorized distributor(s) are authorized to make available additional information relating to the emergency use of your product that is consistent with, and does not exceed, the terms of this letter of authorization.
- I. You and authorized distributor(s) must make available the control materials, at the same time as your product.

Hologic, Inc. (You)

- J. You must notify FDA of any authorized distributor(s) of your product, including the name, address, and phone number of any authorized distributor(s).
- K. You must provide authorized distributor(s) with a copy of this EUA and communicate to authorized distributor(s) any subsequent amendments that might be made to this EUA and its authorized accompanying materials (e.g., Fact Sheets).
- L. You may request changes to this EUA for your product, including to the Scope of Authorization (Section II in this letter) or to the authorized labeling, including requests to make available additional authorized labeling specific to an authorized distributor. Such additional labeling may use another name for the product but otherwise must be consistent with the authorized labeling, and not exceed the terms of authorization of this letter. Any request for changes to this EUA should be submitted to the DMD/OHT7-OIR/OPEQ/CDRH and require appropriate authorization from FDA prior to implementation.
- M. You must comply with the following requirements pursuant to FDA regulations: 21 CFR 820 Subpart H (Acceptance Activities, 21 CFR 820.80 and 21 CFR 820.86), Subpart I (Nonconforming Product, 21 CFR 820.90), and Subpart O (Statistical Techniques, 21 CFR 820.250).
- N. You must have lot release procedures and the lot release procedures, including the study design and statistical power, must ensure that the tests released for distribution have the clinical and analytical performance claimed in the authorized labeling.
- O. If requested by FDA, you must submit lot release procedures to FDA, including sampling protocols, testing protocols, and acceptance criteria, that you use to release lots of your product for distribution in the U.S. If such lot release procedures are requested by FDA, you must provide it within 48 hours of the request.
- P. You must evaluate the analytical limit of detection and assess traceability⁹ of your product with any FDA-recommended reference material(s). After submission to and concurrence with the data by FDA, you will update your labeling to reflect the

⁹ Traceability refers to tracing analytical sensitivity/reactivity back to an FDA-recommended reference material.

additional testing. Such labeling updates will be made in consultation with, and require concurrence of, DMD/OHT7-OIR/OPEQ/CDRH.

- Q. You must further evaluate the clinical performance of your product in an FDA agreed upon post authorization clinical evaluation study within 6 months of the date of this letter (unless otherwise agreed to with FDA). After submission to and concurrence with the data by FDA, you will update authorized labeling to reflect the additional testing. Such labeling updates will be made in consultation with, and require concurrence of DMD/OHT7-OIR/OPEQ/CDRH.
- R. You must evaluate specimen stability of your product in an FDA agreed upon post-authorization specimen stability study within 2 months of the date of this letter (unless otherwise agreed to with FDA). After submission to and concurrence with the data by FDA, you will update authorized labeling to reflect the additional testing.
- S. You must have a process in place to track adverse events, including any occurrence of false results with your product and report to FDA pursuant to 21 CFR Part 803.
- T. You must evaluate the impact of SARS-CoV-2 viral mutations **and** all other target analytes on your product's performance. Such evaluations must occur on an ongoing basis and must include any additional data analysis that is requested by FDA in response to any performance concerns you or FDA identify during routine evaluation. Additionally, if requested by FDA, you must submit records of these evaluations for FDA review within 48 hours of the request. If your evaluation identifies viral mutations that affect the stated expected performance of your device, you must notify FDA immediately (via email: CDRH-EUA-Reporting@fda.hhs.gov).
- U. If requested by FDA, you must update your labeling within 7 calendar days to include any additional labeling risk mitigations identified by FDA, such as those related to the impact of viral mutations on test performance. Such updates will be made in consultation with, and require concurrence of, DMD/OHT7-OIR/OPEQ/CDRH.

Authorized Laboratories

- V. Authorized laboratories using your product must include with test result reports, all authorized Fact Sheets. Under exigent circumstances, other appropriate methods for disseminating these Fact Sheets may be used, which may include mass media.
- W. Authorized laboratories using your product must use your product as outlined in the authorized labeling. Deviations from the authorized procedures, including the authorized instruments, authorized extraction methods, authorized clinical specimen types, authorized control materials, authorized other ancillary reagents and authorized materials required to use your product are not permitted.
- X. Authorized laboratories that receive your product must notify the relevant public health authorities of their intent to run your product prior to initiating testing.

- Y. Authorized laboratories using your product must have a process in place for reporting test results to healthcare providers and relevant public health authorities, as appropriate.
- Z. Authorized laboratories must collect information on the performance of your product and report to DMD/OHT7-OIR/OPEQ/CDRH (via email: CDRH-EUA-Reporting@fda.hhs.gov) and you (molecularsupport@hologic.com) any suspected occurrence of false positive or false negative results and significant deviations from the established performance characteristics of your product of which they become aware.
- AA. All laboratory personnel using your product must be appropriately trained in Transcription Mediated Amplification techniques and use appropriate laboratory and personal protective equipment when handling this kit, and use your product in accordance with the authorized labeling.

Hologic, Inc. (You), Authorized Distributor(s) and Authorized Laboratories

- BB. You, authorized distributors, and authorized laboratories using your product must ensure that any records associated with this EUA are maintained until otherwise notified by FDA. Such records will be made available to FDA for inspection upon request.

Conditions Related to Printed Materials, Advertising and Promotion

- CC. All descriptive printed matter, advertising, and promotional materials relating to the use of your product shall be consistent with the authorized labeling, as well as the terms set forth in this EUA and meet the requirements set forth in section 502(a), (q)(1), and (r) of the Act, as applicable, and FDA implementing regulations.
- DD. No descriptive printed matter, advertising, or promotional materials relating to the use of your product may represent or suggest that this test is safe or effective for the detection of SARS-CoV-2.
- EE. All descriptive printed matter, advertising, and promotional materials relating to the use of your product shall clearly and conspicuously state that:
 - This product has not been FDA cleared or approved, but has been authorized for emergency use by FDA under an EUA for use by authorized laboratories;
 - This product has been authorized only for the detection of nucleic acid from SARS-CoV-2, Flu A, and/or Flu B, not for any other viruses or pathogens; and,
 - The emergency use of this product is only authorized for the duration of the declaration that circumstances exist justifying the authorization of emergency use of in vitro diagnostics for detection and/or diagnosis of COVID-19 under Section 564(b)(1) of the Federal, Food, Drug, and Cosmetic Act, 21 U.S.C. § 360bbb-3(b)(1), unless the declaration is terminated or authorization is revoked sooner.

The emergency use of your product as described in this letter of authorization must comply with the conditions and all other terms of this authorization.

V. Duration of Authorization

This EUA will be effective until the declaration that circumstances exist justifying the authorization of the emergency use of in vitro diagnostics for detection and/or diagnosis of COVID-19 is terminated under Section 564(b)(2) of the Act or the EUA is revoked under Section 564(g) of the Act.

Sincerely,

Jacqueline A. O'Shaughnessy, Ph.D.
Acting Chief Scientist
Food and Drug Administration

Enclosure