

QUEST DIAGNOSTICS MONKEYPOX VIRUS QUALITATIVE REAL-TIME PCR

Quest Diagnostics Nichols Institute

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All individuals whose specimens are tested with this product will receive the Fact Sheet for Patients for the product.

This Fact Sheet informs you of the significant known and potential risks and benefits of the emergency use of the Quest Diagnostics Monkeypox Virus Qualitative Real-Time PCR assay.

WHERE CAN I GO FOR GENERAL INFORMATION ON MONKEYPOX?

For general information on monkeypox, including the symptoms of monkeypox, infection control precautions, and other information please check the CDC monkeypox webpage (see links provided in “*Where can I go for updates and more information?*” section at the end of this document) or your local jurisdiction’s website for the most up to date information.

WHAT DO I NEED TO KNOW ABOUT MONKEYPOX TESTING WITH THIS PRODUCT?

- The Quest Diagnostics Monkeypox Virus Qualitative Real-Time PCR assay can be **used to test lesion swab specimens (i.e., swabs of acute pustular or vesicular rash) in universal viral transport media (UTM)** from individuals suspected of monkeypox virus infection by their healthcare provider.
- The Quest Diagnostics Monkeypox Virus Qualitative Real-Time PCR assay is only authorized for use at laboratories designated by Quest Diagnostics that are certified under the Clinical Laboratory Improvement Amendments of 1988 (CLIA), 42 U.S.C. §263a and meet the requirements to perform high complexity tests.

Specimens should be collected with appropriate infection control precautions. When collecting and handling specimens from individuals suspected of being infected with monkeypox virus, appropriate personal protective equipment should be used as outlined on the CDC *Infection Prevention and Control of Monkeypox in Healthcare Settings* webpage. For additional information, refer to the CDC *Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings (2007)* (see links provided in “*Where can I go for updates and more information?*” section at the end of this document).

WHAT DOES IT MEAN IF THE SPECIMEN TESTS POSITIVE FOR THE VIRUS THAT CAUSES MONKEYPOX OR TESTS POSITIVE FOR OTHER NON-VARIOLA ORTHOPOXVIRUSES?

A positive test result for monkeypox indicates that DNA from the monkeypox virus was detected, and therefore the patient is infected with the virus and presumed to be contagious. A positive test result for monkeypox does not preclude the possibility of another infectious pathogen (e.g., a bacterial infection or co-infection with other viruses) contributing to the patient’s symptoms. Healthcare providers should always consider laboratory test results in the context of clinical observations and epidemiological data (such as local prevalence rates and current

outbreak/epicenter locations) in determining individual diagnosis and patient management decisions and should follow current CDC guidelines.

The Quest Diagnostics Monkeypox Virus Qualitative Real-Time PCR assay detects both monkeypox and other non-variola *Orthopoxvirus* (NVO) gene targets. As monkeypox virus clade II (Western African clade) is the only member of the *Orthopoxvirus* genus known to be circulating in the US at this time, a positive result for the NVO gene target most likely represents the presence of monkeypox virus, although there is a small possibility that this result could represent the presence of a different NVO, such as vaccinia virus. If clinical concern for such an infection exists, healthcare providers should contact the CDC and their local public health authorities for guidance.

The Quest Diagnostics Monkeypox Virus Qualitative Real-Time PCR assay has been designed to minimize the likelihood of false positive test results. However, it is still possible that this test can give a false positive result. In the event of a false positive result, risks to patients could include the following: a recommendation for isolation of the patient, monitoring of household or other close contacts for symptoms, patient isolation that might limit contact with family or friends and may increase contact with other potential patients with monkeypox, limits in the ability to work, delayed diagnosis and treatment for the true infection causing the symptoms, unnecessary prescription of a monkeypox treatment or therapy, negative impact on mental health and/or interpersonal relationships, or other unintended adverse effects.

All laboratories using this test must follow the standard testing and reporting guidelines according to their appropriate public health authorities.

WHAT DOES IT MEAN IF THE SPECIMEN TESTS NEGATIVE FOR THE VIRUS THAT CAUSES MONKEYPOX AND TESTS NEGATIVE FOR OTHER NON-VARIOLA ORTHOPOXVIRUSES?

A negative test result for this test means that monkeypox virus and other non-variola *Orthopoxvirus* DNA was not present in the specimen above the limit of detection. However, a negative result does not rule out monkeypox and should not be used as the sole basis for treatment or patient management decisions. It is possible for a test to miss infection with the monkeypox virus if testing a person occurs too early or too late during their illness, or if the specimen is not collected from a site carrying adequate concentration of virus. Inadequate or improper specimen collection and handling may yield false negative results via the Quest Diagnostics Monkeypox Virus Qualitative Real-Time PCR assay.

When diagnostic testing is negative, the possibility of a false negative result should be considered in the context of an individual's recent exposures and the presence of clinical signs and symptoms consistent with monkeypox. The possibility of a false negative result should especially be considered if the individual's recent exposures or clinical presentation indicate that monkeypox is likely, and diagnostic tests for other causes of illness (e.g., other illnesses with similar symptoms) are negative. Special consideration should be given to patients who are immunocompromised, pregnant, very young, or otherwise at increased risk of severe or complicated disease.

If monkeypox is still suspected based on exposure history together with other clinical findings, re-testing with an alternative method should be considered by healthcare providers in consultation

with public health authorities. Additional testing may be helpful to ensure testing was not conducted too early and that an adequate specimen was collected from the appropriate anatomical site(s).

Risks to a patient of a false negative test result include delayed or lack of supportive treatment, lack of monitoring of infected individuals and their household or other close contacts for symptoms resulting in increased risk of spread of monkeypox within the community, or other unintended adverse events.

The performance of this test was established based on the evaluation of a limited number of clinical specimens. As the ongoing global outbreak of monkeypox is actively evolving, new epidemiological, microbiological, and clinical information may emerge over time requiring updates to best practices in testing, prevention, and treatment of this virus.

WHAT IS AN EUA?

The U.S. FDA has made this test available under an emergency access mechanism called an Emergency Use Authorization (EUA). The EUA is supported by the Secretary of Health and Human Service's (HHS's) declaration that circumstances exist to justify the emergency use of in vitro diagnostics (IVDs) for the detection and/or diagnosis of infection with monkeypox virus, including in vitro diagnostics that detect and/or diagnose infection with non-variola *Orthopoxvirus*.

An IVD made available under an EUA has not undergone the same type of review as an FDA-approved or cleared IVD. FDA may issue an EUA when certain criteria are met, which includes that there are no adequate, approved, available alternatives, and based on the totality of scientific evidence available, it is reasonable to believe that this IVD may be effective in diagnosing monkeypox.

The EUA for this test is in effect for the duration of the monkeypox declaration justifying emergency use of IVDs, unless the declaration is terminated or authorization is revoked sooner.

WHAT ARE THE APPROVED AVAILABLE ALTERNATIVES?

Any tests that have received full marketing status (e.g., cleared, approved), as opposed to an EUA, by FDA can be found by searching the medical device databases here: <https://www.fda.gov/medical-devices/device-advice-comprehensive-regulatory-assistance/medical-device-databases>. As of the date of this fact sheet, there is only one cleared test.¹ A cleared or approved test should be used instead of a test made available under an EUA, when appropriate and available. FDA has issued EUAs for other tests that can be found at: <https://www.fda.gov/emergency-preparedness-and-response/mcm-legal-regulatory-and-policy-framework/emergency-use-authorization>.

¹ There is an FDA-cleared diagnostic test for non-variola orthopoxviruses, including monkeypox virus, which the Centers for Disease Control and Prevention (CDC) developed.

WHERE DO I REPORT ADVERSE EVENTS?

Report Adverse events, including problems with test performance or results, to MedWatch by submitting the online FDA Form 3500 (<https://www.accessdata.fda.gov/scripts/medwatch/index.cfm?action=reporting.home>) or by calling **1-800-FDA-1088**

WHERE CAN I GO FOR UPDATES AND MORE INFORMATION?

CDC WEBPAGES:

Monkeypox Home Page: <https://www.cdc.gov/poxvirus/monkeypox/index.html>

2022 U.S. Outbreak Information: <https://www.cdc.gov/poxvirus/monkeypox/response/2022/index.html>

Symptoms: <https://www.cdc.gov/poxvirus/monkeypox/symptoms.html>

Healthcare Professionals: <https://www.cdc.gov/poxvirus/monkeypox/clinicians/index.html>

Information for Laboratories: <https://www.cdc.gov/poxvirus/monkeypox/lab-personnel/index.html>

Laboratory Biosafety: <https://www.cdc.gov/poxvirus/monkeypox/lab-personnel/lab-procedures.html>

Isolation Precautions in Healthcare Settings: <https://www.cdc.gov/infectioncontrol/guidelines/isolation/index.html>

Specimen Collection: <https://www.cdc.gov/poxvirus/monkeypox/clinicians/prep-collection-specimens.html>

Infection Control: <https://www.cdc.gov/poxvirus/monkeypox/clinicians/infection-control-healthcare.html>

FDA WEBPAGES:

General: <https://www.fda.gov/emergency-preparedness-and-response/mcm-issues/fda-monkeypox-response>

EUAs: (includes links to patient fact sheet and manufacturer's instructions) <https://www.fda.gov/medical-devices/emergency-use-authorizations-medical-devices/monkeypox-emergency-use-authorizations-medical-devices>

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