

**THE AGA KHAN UNIVERSITY HOSPITAL CLINICAL LABORATORIES
UPDATE**

Monkeypox virus DNA Detection

Introduction

Monkeypox is caused by infection with the monkeypox virus and results in pustules and vesicles on the skin and mucous membranes including, the genital area. Monkeypox virus belongs to the Orthopoxvirus genus in the family Poxviral. In humans, the symptoms of monkeypox infection are similar to but milder than the symptoms of smallpox. Monkeypox begins with fever, headache, muscle aches, and exhaustion.

Transmission of monkeypox virus occurs when a person comes in contact with the virus from an animal, human, or materials contaminated with the virus. The virus enters the body through broken skin (even if not visible), respiratory tract, or mucous membranes (eyes, nose, or mouth). It can also be transmitted through sharing of infected materials such as, towels and linen.

Intended Use: The Monkeypox virus DNA detection test is intended for the qualitative detection of Monkeypox virus from a vesicle or pustule on the skin or mucous membrane of humans.

Principle of the Assay:

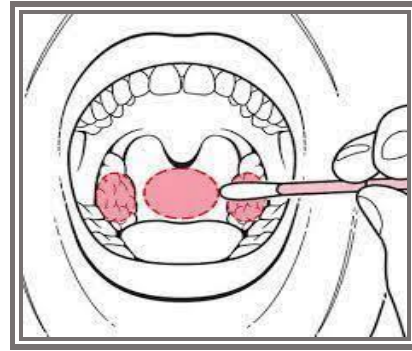
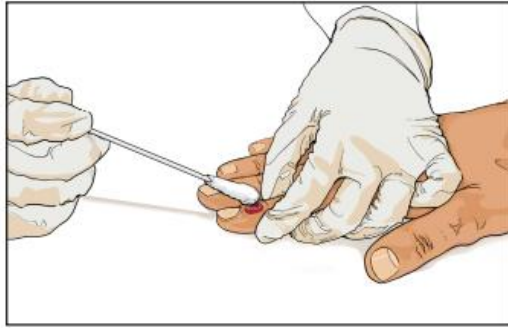
DNA is extracted from the patient sample, followed by real-time PCR amplification. Specific primers and probes are utilized to amplify genetic sequences specific to the monkeypox virus genome. An internal control gene is also amplified to ensure the validity of the amplification protocol.

Note:

Negative results do not rule out an infection with the monkeypox virus and should not be the sole basis of the patient treatment decision. Correlation of result with clinical and other laboratory findings are highly recommended.

Specimen Collection:

Dacron or polyester swabs are recommended for sampling. A dry swab specimen will be collected from a pustule or vesicle on the skin or mucous membrane. This will be submitted to the laboratory in a sterile tube without any transport medium. In addition, an oropharyngeal swab (sample patient's posterior pharynx and tonsillar area) should be collected and kept in a sterile tube (without any transport medium).



Picture source: <https://www.cdc.gov/poxvirus/monkeypox/pdf/MPoxTestingPatients.pdf>

https://www.mayocliniclabs.com/-/media/it-mmfiles/Special%20Instructions/F/5/2/COVID%2019_Oropharyngeal_Collection_Instructions

Transport: Collected swabs should be stored immediately at 2-8°C after collection and transported. Samples submitted from outside Karachi MUST be transported on dry ice.

Rejection criteria: Samples collected using cotton swabs are not acceptable. Oropharyngeal swabs must be submitted together with a swab of a vesicular (site- specific) specimen; any oropharyngeal swab sent by itself for a case will not be acceptable.

Reporting Schedule:

Test is performed & reported on Monday, Wednesday and Friday.

References:

World Health Organization. Laboratory testing for the monkeypox virus. Interim guidance, 22nd May 2022