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# Mpox virus factsheet

Mpox virus (previously known as monkeypox) is a zoonotic orthopox virus which was first reported in humans in 1970 (in the Democratic Republic of Congo). It has rarely been reported outside specific regions of Africa where it is endemic. Mpox is endemic in the rainforests of Central / Western Africa where monkeys and squirrels may cycle the virus. The virus is related to the smallpox virus and can cause similar symptoms though the mortality rate is much lower. Symptoms include fever and the development of numerous lesions on the face and body. Secondary complications such as encephalitis have been reported but tend to be rare in healthy individuals.

Human to human transmission occurs through respiratory droplets or contact with infected skin. There are two distinct clades of mpox, referred to as clade I and clade II. In 2022-23, a global mpox outbreak was caused by a clade II strain. In 2024, a new clade I variant (clade Ib) began to circulate in Central and East Africa. This variant appears to be highly transmissible and cases have now been reported in Thailand, Sweden and India. From the beginning of mpox monitoring in 2022 up until 31st July 2024, there have been over 100,000 confirmed cases and over 200 deaths.

Rapid and accurate diagnosis of mpox infection is critical to contain community spread of the virus. At Micropathology, we have developed a mpox specific probe-based PCR assay, based on a published paper (Fig. 1). This assay is fully validated and UKAS accredited. Validation data has shown the assay to be both highly specific and very sensitive (limit of detection - 84 copies/ml), allowing effective detection in samples with low viral loads. The recommended sample type for this assay is a swab of an infected area (respiratory swabs and whole blood are also validated sample types). We also have an mpox typing assay in development, for clade typing of positive samples.

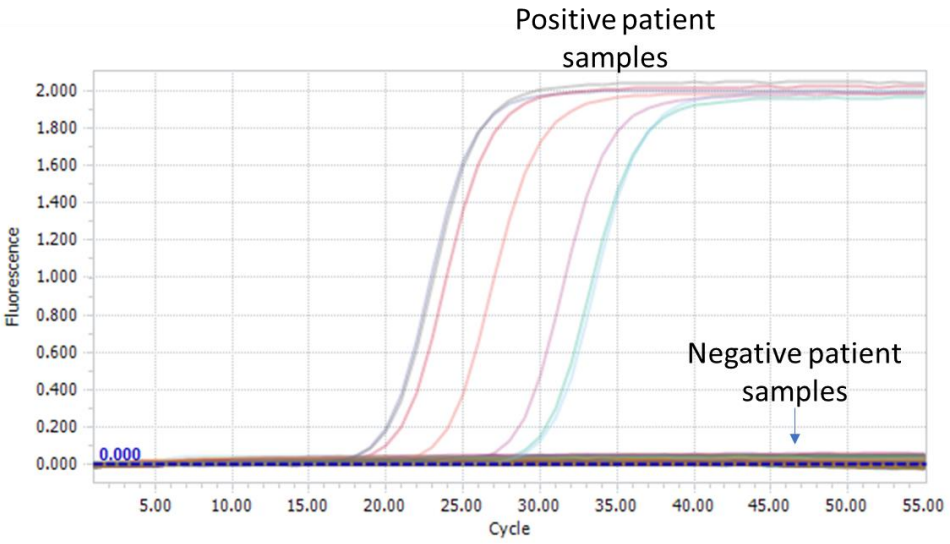


**Figure 1**: Detection of Mpox virus using a specific probe-based PCR assay

*Key References:*

**Adler et al. 2022**. Clinical features and management of human monkeypox: a retrospective observational study in the UK. Lancet Infect Dis. https://doi.org/10.1016/S1473-3099(22)00228-6.

**Thornhill et al. 2022**. Monkeypox Virus Infection in Humans across 16 Countries — April–June 2022. NEJM DOI:-10.1056/NEJMoa2207323.

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