



University of Warwick Science Park, Venture Centre, Sir William Lyons Road, Coventry CV4 7EZ

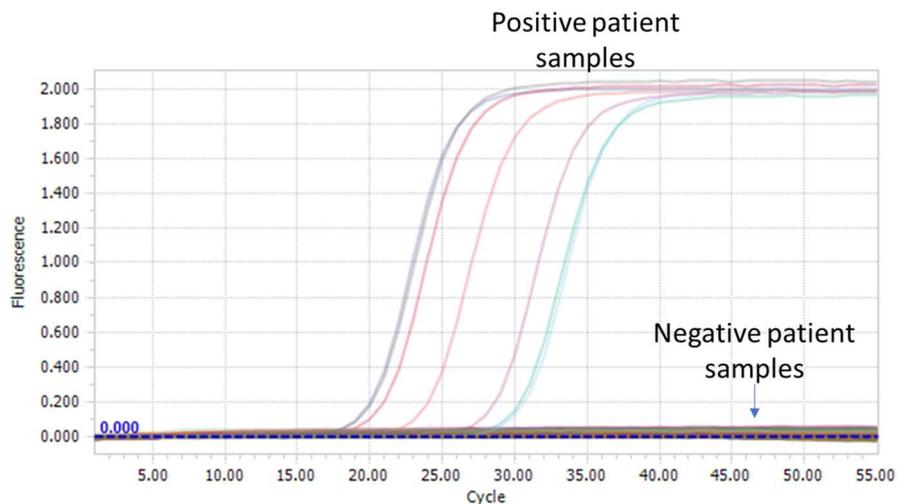
Website: [www.micropathology.com](http://www.micropathology.com) E-mail: [info@micropathology.com](mailto:info@micropathology.com)

## Monkeypox virus factsheet

Monkeypox virus is a zoonotic orthopox virus which was first reported in humans in 1970 (in the Democratic Republic of Congo). Since then, it has rarely been reported outside specific regions of Africa where it is endemic. Monkeypox is endemic in the rainforests of Central and 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.

From May 2022 onwards, >3000 cases of monkeypox have been reported and the World Health Organisation has declared it an “evolving threat of moderate public health concern”. Human to human transmission occurs through respiratory droplets or contact with infected skin. It has been suggested that the current outbreak has occurred due to either a change in the virus or changes in human behaviour, potentially linked to the relaxation of Covid-19 restrictions.

Rapid and accurate diagnosis of monkeypox infection is critical to contain community spread of the virus. At Micropathology, we have developed a monkeypox specific probe-based PCR assay, based on a published paper (Fig. 1). This assay is partially validated and will be submitted for UKAS accreditation in the very near future. 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. During the assay validation, monkeypox DNA was also detected in blood, plasma, serum, CSF and respiratory samples. These sample types will be fully validated very soon.



**Figure 1:** Detection of monkeypox 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](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