Product Information Sheet for NR-9351

Monkeypox Virus Hemagglutinin Gene-Specific Quantitative PCR Assay Detection Kit

Catalog No. NR-9351
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Contributor and Manufacturer:
BEI Resources

Product Description:
The Monkeypox Virus Hemagglutinin (HA) Gene-Specific Quantitative PCR Assay Detection Kit (NR-9351) is designed to detect and quantify the presence of monkeypox virus. The assay was developed using the hemagglutinin gene from monkeypox virus, Zaire 79 (NR-2324) and consists of the following components:

1) Probe designed with 6-carboxyfluorescein (6-FAM) at the 5’ end and both the minor groove binder (MGB) and a non-fluorescent quenching dye at the 3’ end (NR-9347)
2) Forward and reverse primers (NR-9348 and NR-9349, respectively)
3) Linearized plasmid-based standard containing an HA gene insert derived from monkeypox virus, Zaire 79 in a commercial vector (NR-4076)

Specificity for Monkeypox Virus over Non-Orthopoxviruses
This Monkeypox Virus HA Gene-Specific Quantitative PCR Assay has been shown to discriminate monkeypox viruses (Zaire 79 and WRAIR 7-61) from a variety of non-orthopoxviruses, non-viral samples and cell lines acquired from the ATCC® and BEI Resources collections. Quantitative PCR results using extracted nucleic acid were compared against cycle threshold (Ct) values calculated from the serially-diluted plasmid-based standard, which routinely gave standard curves with correlation coefficient values of approximately 0.98.

Preferential Detection of Monkeypox Virus over other Orthopoxviruses
Although the HA genes of orthopoxviruses share over 95% homology, the Monkeypox Virus HA Gene-Specific Quantitative PCR Assay has been shown to preferentially detect monkeypox virus over other orthopoxviruses (vaccinia virus, cowpox virus, ectromelia virus, rabiesvirus, rabbitpoxvirus) in the ATCC® and BEI Resources collections. When the copy number of orthopoxvirus DNAs are normalized using a Pan-Orthopox Virus Quantitative PCR Assay (BEI Resources NR-9350) prior to quantitation using the Monkeypox Virus Hemagglutinin Gene-Specific Quantitative PCR Assay, monkeypox virus was detected between 35-fold and > 1000-fold more efficiently than all other orthopoxviruses tested.

Each kit contains enough probe, primer and plasmid-based standard for approximately 96 reactions using the assay protocol outlined in Appendix I. The primers, probe and plasmid-based standard are available individually by requesting the BEI Resources NR number.

Material Provided:
Each vial of primer and probe contains 90 to 100 µL in TE buffer (pH 7.0). Each vial of plasmid-based standard contains approximately 0.14 µg (lot 61374700 and lot 58073323) and 6.0 µg (lot 61823487) in TE buffer (pH 7.0). Lot-specific information for each assay detection kit component is shown on the Certificate of Analysis.

Packaging/Storage:
Primers and probes were packaged aseptically in screw-capped plastic cryovials. The product is provided frozen on dry ice and should be stored at -60 ºC upon arrival. Freeze-thaw cycles should be minimized. Probe samples should be kept in the dark at all times.

Citation:
Acknowledgment for publications should read “The following reagent was obtained through BEI Resources, NIAID, NIH: Monkeypox Virus Hemagglutinin Gene-Specific Quantitative PCR Assay Detection Kit, NR-9351.”

Biosafety Level: 1

Disclaimers:
You are authorized to use this product for research use only. It is not intended for human use.

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References:

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