Powassan Virus, M11665

Catalog No. NR-51182

For research use only. Not for human use.

Contributor:
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Manufacturer:
BEI Resources

Product Description:

Virus Classification: Flaviviridae, Flavivirus
Species: Powassan Virus
Strain/Isolate: M11665
Original Source: Powassan virus (POWV), M11665 was isolated from a tick (Ixodes cookei) in Laurier Township, Ontario, Canada on June 2, 1965.1,2

POWV is the sole recognized North American member of the tick-borne encephalitis serological complex of the flaviviruses.3 It is transmitted to small- and medium-sized mammals by Ixodes scapularis, Ixodes cookei and several other Ixodes tick species.4,5 POWV infects humans during spillover transmission from the natural transmission cycles causing a rare but severe neuroinvasive disease, with 50% of survivors displaying long-term neurological sequelae. Genomic sequencing demonstrates that POWV consists of two distinct genetic lineages which may be defined by geographical and host associations.2,6 Lineage I, which is the POWV prototype lineage, is maintained predominantly by Ixodes cookei and shows a high level of conservation in nucleotide and amino acid sequences over time. Lineage II, which consists of deer tick virus (DTV), is maintained by Ixodes scapularis.2,8 Serological studies support a close relationship between POWV and DTV, with POWV isolates from New York state displaying a high level of cross-neutralization studies showing that they are indistinguishable serologically.5

Material Provided:
Each vial contains approximately 1 mL of cell lysate and supernatant from Cercopithecus aethiops kidney epithelial cells infected with POWV, M11665.

Note: If homogeneity is required for your intended use, please purify prior to initiating work.

Packaging/Storage:
NR-51182 was packaged aseptically in screw-capped plastic cryovials. The product is provided frozen and should be stored at -80°C or colder immediately upon arrival. For long-term storage, the vapor phase of a liquid nitrogen freezer is recommended. Freeze-thaw cycles should be avoided.

Growth Conditions:
Host: Cercopithecus aethiops kidney epithelial cells (Vero; ATCC® CCL-81™)

Growth Medium: Eagle’s Minimum Essential Medium containing Earle’s Balanced Salt Solution, non-essential amino acids, 2 mM L-glutamine, 1 mM sodium pyruvate and 1.5 g/L of sodium bicarbonate supplemented with 2% fetal bovine serum, or equivalent
Infection: Cells should be 60% to 90% confluent
Incubation: 3 to 6 days at 37°C and 5% CO2
Cytopathic Effect: Cell rounding and sloughing

Citation:
Acknowledgment for publications should read “The following reagent was obtained through BEI Resources, NIAID, NIH: Powassan Virus, M11665, NR-51182.”

Biosafety Level: 3

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References:

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