Mumps Virus, MuV/Iowa.US/2006, Plaque Purified

Catalog No. NR-51281

For research use only. Not for human use.

Contributor:
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Manufacturer:
BEI Resources

Product Description:
Virus Classification: *Paramyxoviridae, Rubulavirus*
Species: Mumps Virus
Strain/Isolate: MuV/Iowa.US/2006 (also referred to as MuV-IA)
Original Source: Mumps virus (MuV), MuV/Iowa.US/2006 was isolated from an oral swab of a human subject in Iowa, USA in 2006.[1,2] It was plaque purified three times prior to deposit at BEI Resources.[1]
Comments: Based on the sequence of the gene encoding the small hydrophobic (SH) protein, MuV/Iowa.US/2006 belongs to genotype G of mumps viruses.[2] The complete genome of MuV, MuV/Iowa.US/2006 has been sequenced (GenBank: JN012242).[2]

MuV is an enveloped negative-sense RNA virus belonging to family *Paramyxoviridae*. The MuV genome encodes for seven proteins, of which the SH gene is the most variable segment. Based on the SH gene sequence, MuV has 12 distinct genotypes from A to L.[2-4] MuV genotypes exhibit distinct geographical distribution with genotypes C-E, G and H observed in the Western Hemisphere, whereas genotypes B, F and I are mostly isolated in Asian countries.[5]

MuV causes acute parotitis in humans and is a neurotropic agent causing a number of central nervous system complications.[2] Introduction of the vaccine against measles, mumps and rubella (MMR) in 1971 led to a drastic reduction in illness due to MuV.[2,5] In spite of the success of the MMR vaccine, mumps outbreaks continue to occur in the US and other countries.[2]

Material Provided:
Each vial contains approximately 1 mL of cell lysate and supernatant from *Cercopithecus aethiops* kidney epithelial cells infected with plaque purified mumps virus, MuV/Iowa.US/2006.

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

Packaging/Storage:
NR-51281 was packaged aseptically in screw-capped plastic cryovials. The product is provided frozen and should be stored at -60°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® CRL-1586™)
Growth Medium: Dulbecco's Modified Eagle's Medium containing 4 mM L-glutamine, 4500 mg per L glucose, 1 mM sodium pyruvate, and 1500 mg per L sodium bicarbonate supplemented with 5% fetal bovine serum or equivalent
Infection: Cells should be 70% to 90% confluent
Incubation: 3 to 7 days at 37°C and 5% CO_2
Cytopathic Effect: Cell fusion and sloughing

Citation:
Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: Mumps Virus, MuV/Iowa.US/2006, Plaque Purified, NR-51281."

Biosafety Level: 2
Appropriate safety procedures should always be used with this material. Laboratory safety is discussed in the following publication: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, and National Institutes of Health. Biosafety in Microbiological and Biomedical Laboratories. 5th ed. Washington, DC: U.S. Government Printing Office, 2009; see www.cdc.gov/biosafety/publications/bmbl5/index.htm.

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References:

1. Rota, P. A., Personal Communication.
2. Xu, P., et al. "Rescue of Wild-Type Mumps Virus from a Strain Associated with Recent Outbreaks Helps to Define the Role of the SH ORF in the Pathogenesis of Mumps Virus." Virology 417 (2011): 126-136. PubMed: 21676427.
3. Boddicker, J. D., et al. "Real-Time Reverse Transcription-PCR Assay for Detection of Mumps Virus in Clinical Specimens." J. Clin. Microbiol. 45 (2007): 2902-2908. PubMed: 17652480.
4. Jin, L., et al. "Proposal for Genetic Characterisation of Wild-Type Mumps Strains: Preliminary Standardisation of the Nomenclature." Arch. Virol. 150 (2005): 1903-1909. PubMed: 15959834.
5. Mühlemann, K. "The Molecular Epidemiology of Mumps Virus." Infect. Genet. Evol. 4 (2004): 215-219. PubMed: 15450201.

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