

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

Catalog No. NR-51281

For research use only. Not for use in humans.

Contributor:

Paul A. Rota, Centers for Disease Control and Prevention, Atlanta, Georgia, USA

Manufacturer:

BEI Resources

Product Description:

Virus Classification: *Paramyxoviridae*, *Orthorubulavirus*

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.^{2,3,4} 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 *Chlorocebus* (formerly *Cercopithecus*) *aethiops* kidney epithelial cells clone E6 (Vero E6; BEI Resources) 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: *Chlorocebus* (formerly *Cercopithecus*) *aethiops* kidney epithelial cells clone E6 (Vero E6; BEI Resources)

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 70% confluent

Incubation: 3 to 7 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: 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 \(BMBL\)](#). 6th ed. Washington, DC: U.S. Government Printing Office, 2020.

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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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