

Porcine Transmissible Gastroenteritis Virus (TGEV), Miller

Catalog No. NR-447

For research use only. Not for human use.

Contributor:

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Product Description:

Virus Classification: *Nidovirales*, *Coronaviridae*,
Coronavirus, Group 1

Agent: Porcine transmissible gastroenteritis virus (TGEV)

Strain: Miller

Original Source: Small intestinal contents of a young pig with diarrhea, vomiting, and dehydration

Comments: The complete genome of TGEV, Miller M6 has been sequenced (GenBank: DQ811785).¹

Material Provided:

Each vial contains approximately 1 mL of cell lysate and supernatant from swine testicular (ST) cells infected with porcine TGEV, Miller.

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

Packaging/Storage:

NR-447 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: ST cells (ATCC® CRL-1746™)

Growth Medium: Minimum Essential Medium containing Earle's salts, L-glutamine, and sodium bicarbonate (supplemented with 1% nonessential amino acids and 1% antibiotics)

Infection: Cells should be 80-90% confluent (not 100% confluent)

Incubation: 1 to 3 days at 37°C and 5% CO₂

Cytopathic Effect: Cell rounding and sloughing

Alternate Hosts: Porcine kidney cells² or gnotobiotic pigs

Note: Porcine TGEV is sensitive to ultraviolet light, high temperature, and strong mechanical agitation.

Citation:

Acknowledgment for publications should read "The following reagent was obtained through the NIH Biodefense and Emerging Infections Research Resources Repository, NIAID, NIH: Porcine Transmissible Gastroenteritis Virus (TGEV), Miller, NR-447."

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, 2007; see www.cdc.gov/od/ohs/biosfty/bmbl5/bmbl5toc.htm.

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References:

1. Zhang, X., et al. "Complete Genomic Sequences, a Key Residue in the Spike Protein and Deletions in Nonstructural Protein 3b of US Strains of the Virulent

- and Attenuated Coronaviruses, Transmissible Gastroenteritis Virus and Porcine Respiratory Coronavirus." *Virology* 358 (2007): 424-435. PubMed: 17023013. GenBank: DQ811785.
2. Bohl, E. H., et al. "Antibody Responses in Serum, Colostrum, and Milk of Swine after Infection or Vaccination with Transmissible Gastroenteritis Virus." *Infect. Immun.* 6 (1972): 289-301. PubMed: 4629259.
 3. Kwon, H. M., L. J. Saif, and D. J. Jackwood. "Field Isolates of Transmissible Gastroenteritis Virus Differ at the Molecular Level from the Miller and Purdue Virulent and Attenuated Strains and from Porcine Respiratory Coronaviruses." *J. Vet. Med. Sci.* 60 (1998): 589-597. PubMed: 9637293.
 4. Bae, I., et al. "Differentiation of Transmissible Gastroenteritis Virus from Porcine Respiratory Coronavirus and Other Antigenically Related Coronaviruses by Using cDNA Probes Specific for the 5' Region of the S Glycoprotein Gene." *J. Clin. Microbiol.* 29 (1991): 215-218. PubMed: 1847152.
 5. Simkins, R. A., et al. "Antigenic Variation among Transmissible Gastroenteritis Virus (TGEV) and Porcine Respiratory Coronavirus Strains Detected with Monoclonal Antibodies to the S Protein of TGEV." *Am. J. Vet. Res.* 53 (1992): 1253-1258. PubMed: 1379786.

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