

Human Coronavirus, 229E

Catalog No. NR-52726

For research use only. Not for use in humans.

Contributor:
ATCC®

Manufacturer:
BEI Resources

Product Description:

Virus Classification: *Coronaviridae, Alphacoronavirus*

Species: Human coronavirus

Strain/Isolate: 229E

Original Source: Human coronavirus (HCoV), 229E was isolated in 1962 from a human adult with minor upper respiratory illness.¹ HCoV, 229E was deposited with ATCC® as VR-740, which was used to produce NR-52726.

Comments: The complete genome of HCoV, 229E has been sequenced (GenBank: [AF304460](https://www.ncbi.nlm.nih.gov/nuccore/AF304460)).²

Coronaviruses (CoV) are enveloped, positive-stranded RNA viruses with approximately 30 kilobase genomes.^{2,3} CoV are classified into three groups based on serological and genetic similarities: group 1 includes HCoV, 229E; group 2 includes HCoV, OC43 and group 3 contains avian infectious bronchitis virus and turkey CoV. SARS-CoV is not assigned to any group, but is most closely associated with group 2.^{2,3} HCoV are enveloped vertebrate viruses associated with respiratory and enteric diseases and are responsible for 10 to 20% of all common colds. HCoV infect all age groups and reinfection is common.²

Material Provided:

Each vial contains approximately 1.0 mL of cell lysate and supernatant from human lung fibroblast cells infected with HCoV, 229E.

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

Packaging/Storage:

NR-52726 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:

Human lung fibroblast cells (MRC-5; ATCC® CCL-171™)

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 grams per liter of sodium bicarbonate supplemented with 2% fetal bovine serum, or equivalent

Infection: Cells should be 1 to 2 days old and 90% confluent

Incubation: 1 to 4 days at 35°C and 5% CO₂

Cytopathic Effect: Cell rounding

Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: Human Coronavirus, 229E, NR-52726."

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. 6th ed. Washington, DC: U.S. Government Printing Office, 2020; see www.cdc.gov/biosafety/publications/bmb15/index.htm.

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References:

1. Hamre, D. and J. J. Procknow. "A New Virus Isolated from the Human Respiratory Tract." Proc. Soc. Exp. Biol. Med. 121 (1966): 190-193. PubMed: 4285768.

2. Thiel, V., et al. "Infectious RNA Transcribed *in vitro* from a cDNA Copy of the Human Coronavirus Genome Cloned in Vaccinia Virus." J. Gen. Virol. 82 (2001): 1273-1281. PubMed: 11369870.
3. Vijnen, L., et al. "Complete Genomic Sequence of Human Coronavirus OC43: Molecular Clock Analysis Suggest a Relatively Recent Zoonotic Coronavirus Transmission Event." J. Virol. 3 (2005): 1595-1604. PubMed: 15650185.

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