

Human Coronavirus, OC43 in HRT-18G Cells

Catalog No. NR-56241

For research use only. Not for use in humans.

Contributor:
ATCC®

Manufacturer:
BEI Resources

Product Description:

Virus Classification: *Coronaviridae, Betacoronavirus*

Species: Human coronavirus

Strain/Isolate: OC43

Original Source: Human coronavirus (HCoV), OC43 was isolated in 1967 from a respiratory sample from a human adult with a cold-like illness in the Common Cold Unit, Salisbury, England, United Kingdom.¹

Comments: HCoV, OC43 was deposited with ATCC as VR-759™, which was later cleaned of mycoplasma contamination and adapted to cell culture by passaging three times with Mycoplasma Removal Agent (MRA), followed by three passages without MRA to become ATCC VR-1558™. ATCC VR-1558 was used to produce BEI Resources NR-56241. The complete genome of HCoV, OC43 has been sequenced (GenBank: [AY585228](#)).

Coronaviruses (CoV) are enveloped, positive-stranded RNA viruses with approximately 30 kb genomes.^{1,2} 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.^{1,2} 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.¹

Material Provided:

Each vial contains approximately 1.0 mL of cell lysate and supernatant from human ileocecal colorectal adenocarcinoma cells (HRT-18G) infected with HCoV, OC43.

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

Packaging/Storage:

NR-56241 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: Human ileocecal colorectal adenocarcinoma cells (HRT-18G; ATCC CRL-11663™)

Growth Medium: Dulbecco's Modified Eagle's medium modified to contain 4 mM L-glutamine, 4500 milligrams per liter glucose, 1 mM sodium pyruvate, and 1500 milligrams per liter sodium bicarbonate supplemented with 2% irradiated fetal bovine serum, or equivalent

Infection: Cells should be 70% to 80% confluent

Incubation: 4 to 8 days at 33°C and 5% CO₂

Cytopathic Effect: Cell vacuolization and sloughing

Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: Human Coronavirus, OC43 in HRT-18G Cells, NR-56241."

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/bmbl5/index.htm.

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References:

1. Vijgen, 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.
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.

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