

Recombinant Vesicular Stomatitis Virus Expressing SARS-CoV-2 Spike (S) with Enhanced Green Fluorescent Protein (eGFP)

Catalog No. NR-55284

For research use only. Not for use in humans.

Contributor:

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Manufacturer:

BEI Resources

Product Description:

Virus Classification: *Alphaherpesvirinae; Vesiculovirus*

Species: Vesicular Stomatitis Indiana Virus (VSV)

Isolate: rVSV-eGFP-SARS-CoV-2 S

Original Source: rVSV-SARS-CoV-2 S was generated by modification of a Vesicular Stomatitis Virus (VSV) antigenome to replace its native glycoprotein with the full-length, wild-type SARS-CoV-2 Wuhan-Hu-1 S gene (GenBank: [MN908947.3](#)). The antigenome also encodes for enhanced green fluorescent protein (eGFP). After a plasmid-based rescue, rVSV-SARS-CoV-2 S was passaged 9 times and plaque-purified. Sequencing of the passage 9 isolates identified numerous point mutations within the SARS-CoV-2 S gene along with a 21 to 24 base pair deletion at the 3' end.^{1,2}

NR-55284 is a recombinant VSV engineered to express the SARS-CoV-2 S gene as the sole entry glycoprotein and resembles SARS-CoV-2 in cellular entry and inhibition and antibody sensitivity assays. rVSV-SARS-CoV-2 S can be used in place of SARS-CoV-2 for applications such as viral entry and inhibition studies and antiviral screening.^{1,2}

Material Provided:

Each vial contains approximately 0.5 mL of spin-clarified cell lysate and supernatant from *Cercopithecus aethiops* kidney cells infected with rVSV-eGFP-SARS-CoV-2 S.

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

Packaging/Storage:

NR-55284 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 cells (Vero; ATCC® CCL-81™)

Growth Medium: Dulbecco's Modified Eagle's Medium (DMEM) 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% fetal bovine serum or equivalent and 1% Penicillin/Streptomycin solution

Infection: Cells should be 70% to 90% confluent

Incubation: 2 to 4 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: Recombinant Vesicular Stomatitis Virus Expressing SARS-CoV-2 Spike (S) with Enhanced Green Fluorescent Protein (eGFP), NR-55284."

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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Registrants from for-profit companies need to execute a UBMTA between Albert Einstein College of Medicine and the recipient institution. Please contact Wei Ouyang (wei.ouyang@einsteinmed.org) and Benjamin Neymotin (benjamin.neymotin@einsteinmed.org) in the Department of Biotechnology at Albert Einstein College of Medicine for further information.

References:

1. Chandran, K., Personal Communication.
2. Dieterle, M. E., et al. "A Replication-Competent Vesicular Stomatitis Virus for Studies of SARS-CoV-2 Spike-Mediated Cell Entry and Its Inhibition." *Cell Host Microbe* 23 (2020): 486-496. PubMed: 32738193.

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