Adenovirus Serotype 5, Clone Ad5-CMV-hACE2/RSV-eGFP, Recombinant Expressing Human ACE2

Catalog No. NR-52390

For research use only. Not for human use.

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Manufacturer:
BEI Resources

Product Description:
Virus Classification: *Adenoviridae*, *Mastadenovirus*
Species: Adenovirus serotype 5
Strain/Isolate: Ad5-CMV-hACE2/RSV-eGFP
Original Source: Human angiotensin-converting enzyme 2 (ACE2; GenBank: AB046569) complementary DNA was cloned into E1/E3-deleted recombinant adenovirus serotype 5 (Ad5), driven by a cytomegalovirus (CMV) promoter, along with an enhanced green fluorescent protein (GFP) gene, driven by a respiratory syncytial virus (RSV) promoter.[1]

NR-52390 is an adenoviral vector engineered to express human ACE2, the receptor of severe acute respiratory syndrome-related coronavirus 2 (SARS-CoV-2).[2] NR-52390 is a replication-incompetent, recombinant adenoviral vector used for transducing cells once, but can only multiply in cells which express E1, such as Human Embryonic Kidney (HEK-293) cells.

Note: Replication competency for NR-52390 has not been checked at BEI Resources and a low level of replication-competent adenovirus might be present in the virus population. If required for subsequent work, user should check the absence of the E1 gene or do a Replication Competent Adenovirus (RCA) test.

Material Provided:
Each vial contains approximately 0.5 mL of cell lysate and supernatant from HEK-293 cells infected with Ad5-CMV-hACE2/RSV-eGFP.

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

Packaging/Storage:
NR-52390 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 embryonic kidney cells (HEK-293; ATCC® CRL-1573™)
Growth Medium: Dulbecco's Modified Eagle's Medium (DMEM) containing 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 50% to 70% confluent
Incubation: 2 to 4 days at 37°C and 5% CO_2
Cytopathic Effect: Cell rounding and sloughing

Citation:
Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: Adenovirus Serotype 5, Clone Ad5-CMV-hACE2/RSV-eGFP, Recombinant Expressing Human ACE2, NR-52390."

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, 2009; see www.cdc.gov/biosafety/publications/bmbl5/index.htm.

Disclaimers:
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References:

1. Sinn, P. L., Personal Communication.
2. Hulswit, R. J. G., C. A. M. de Haan and B.-J. Bosch. "Coronavirus Spike Protein and Tropism Changes." Adv. Virus Res. 96 (2016): 29-57. PubMed: 27712627.
3. Kai, H. and M. Kai. "Interactions of Coronaviruses with ACE2, Angiotensin II, and RAS Inhibitors – Lessons from Available Evidence and Insights into COVID-19." Hypertens. Res. 2020 Apr 27. PubMed: 32341442.

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