

Vaccinia Virus, Western Reserve (Tissue Culture Adapted)

Catalog No. NR-55

(Derived from ATCC® VR-1354™)

For research use only. Not for use in humans.

Contributor:

ATCC®

Manufacturer:

BEI Resources

Product Description:

Virus Classification: *Poxviridae, Orthopoxvirus*

Species: Vaccinia virus

Strain: Western Reserve (NIAID, tissue culture adapted)¹

Original Source: Vaccinia virus (VACV), Western Reserve (WR) was derived from the original New York City Board of Health (NYCBH) strain by intracerebral passages in mice and was deposited at ATCC®.^{1,2}

Comments: VACV, WR (NIAID, tissue culture adapted) was derived from ATCC® VR-119™ by Dr. Bernard Moss and Norman Cooper, Laboratory of Viral Diseases, NIAID and was deposited at ATCC as VR-1354. VR-1354 was used to produce seed material for BEI Resources NR-55. The tissue culture-adapted strain of WR is widely used in research applications.³ The complete genomic sequence of VACV, WR has been determined (GenBank: [AY243312](https://www.ncbi.nlm.nih.gov/nuccore/AY243312)).⁴

VACV, WR has been utilized in constructing vectors for gene expression and in producing viral proteins and DNA.^{3,5}

Material Provided:

Each vial contains approximately 1 mL of cell lysate and supernatant from *Cercopithecus aethiops* kidney cells (Vero; ATCC® CCL-81™) infected with VACV, WR (NIAID, tissue culture adapted).

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

Packaging/Storage:

NR-55 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: Eagle's minimum essential medium modified to contain Earle's Balanced Salt Solution, non-essential amino acids, 2 mM L-glutamine, 1 mM sodium pyruvate, and 1500 milligrams per liter sodium bicarbonate supplemented with 2% fetal bovine serum, or equivalent

Infection: Cells should be approximately 80 to 90% confluent

Incubation: 6 to 8 days at 37°C and 5% CO₂

Cytopathic Effect: Cell rounding and detachment

Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: Vaccinia Virus, Western Reserve (NIAID, Tissue Culture Adapted), NR-55."

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. Parker, R. F., L. H. Bronson, and R. H. Green. "Further Studies of the Infectious Unit of Vaccinia." J. Exp. Med. 74 (1941): 263–281.
2. Bronson, L. H. and R. F. Parker. "The Neutralization of Vaccine Virus by Immune Serum: Titration by the Intracerebral Inoculation of Mice." J. Bacteriol. 41 (1941): 56–57.
3. Mackett, M. and G. L. Smith. "Vaccinia Virus Expression Vectors." J. Gen. Virol. 67 (1986): 2067–2082. PubMed: 3531399.
4. Esposito, J. J., et al. "Vaccinia Virus, Complete Genome." Direct submission, 24 Feb 2003. GenBank: NC_006998.
5. Salzman, N. P. and E. D. Sebring. "Sequential Formation of Vaccinia Virus Proteins and Viral Deoxyribonucleic Acid Replication." J. Virol. 1 (1967): 16–23. PubMed: 4248263.
6. Smee, D. F., et al. "Characterization and Treatment of Cidofovir-Resistant Vaccinia (WR Strain) Virus Infections in Cell Culture and in Mice." Antivir. Chem. Chemother. 16 (2005): 203–211. PubMed: 16004083.
7. Gallego-Gómez, J. C., et al. "Differences in Virus-Induced Cell Morphology and in Virus Maturation between MVA and Other Strains (WR, Ankara, and NYCBH) of Vaccinia Virus in Infected Human Cells." J. Virol. 77 (2003): 10606–10622. PubMed: 12970445.
8. Ramirez, J. C., M. M. Gherardi, and M. Esteban. "Biology of Attenuated Modified Vaccinia Virus Ankara Recombinant Vector in Mice: Virus Fate and Activation of B- and T-Cell Immune Responses in Comparison with the Western Reserve Strain and Advantages as a Vaccine." J. Virol. 74 (2000): 923–933. PubMed: 10623755.

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