

### Vaccinia Virus (WR) B5R Protein with N-terminal Histidine Tag, Recombinant from baculovirus

Catalog No. NR-546

**For research use only. Not for human use.**

#### Contributor:

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#### Product Description:

NR-546 is a recombinant form of the B5R membrane glycoprotein [B5R(275t); residues 20 to 275 comprising the ectodomain, N-terminal histidine-tagged]<sup>1</sup> of the Western Reserve (WR) strain of vaccinia virus. The full length B5R protein is 317 residues (GenPept: Q01227).<sup>2</sup> NR-546 was produced in Sf9 insect cells using a baculovirus expression system and was purified using ammonium sulfate precipitation and nickel affinity chromatography. The predicted protein sequence is shown in Table 1 below. Non-vaccinia virus residues are underlined.

#### Material Provided:

Each vial contains approximately 0.5 mg of NR-546 in 50 mM borate buffer (pH 8) containing 100 mM NaCl. The concentration, expressed as mg per mL, is shown on the Certificate of Analysis.

#### Packaging/Storage:

NR-546 was packaged aseptically in cryovials. The product is provided on dry ice and should be stored at -60°C or colder immediately upon arrival. Repeated freeze-thaw cycles of this product should be avoided.

#### Functional Activity:

NR-546 was demonstrated to be functionally active based on its reactivity with human polyclonal anti-vaccinia virus immune globulin (VIG) and monoclonal antibodies to B5R (BEI Resources NR-422 to NR-424, NR-426 to NR-431, NR-551 to NR-556 and NR-559 to NR-562).

#### Citation:

Acknowledgment for publications should read "The following reagent was obtained through the NIH Biodefense and Emerging Infections Research Resources Repository, NIAID, NIH: Vaccinia Virus (WR) B5R Protein with N-terminal Histidine Tag, Recombinant from baculovirus, NR-546."

#### Biosafety Level: 1

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. 4th ed. Washington, DC: U.S. Government Printing Office, 1999. HHS Publication No. (CDC) 93-8395. This text is available online at [www.cdc.gov/od/ohs/biosfty/bmbl4/bmbl4toc.htm](http://www.cdc.gov/od/ohs/biosfty/bmbl4/bmbl4toc.htm).

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#### References:

1. Aldaz-Carroll, L., et al. "Epitope-Mapping Studies Define Two Major Neutralization Sites on the Vaccinia Virus Extracellular Enveloped Virus Glycoprotein B5R." *J. Virol.* 79 (2005): 6260–6271. PubMed: 15858010.
2. Smith, G. L., Y. S. Chan, and S. T. Howard. "Nucleotide Sequence of 42 Kbp of Vaccinia Virus Strain WR from near the Right Inverted Terminal Repeat." *J. Gen. Virol.* 72 (1991): 1349–1376. PubMed: 2045793.

3. Lustig, S., et al. "Combinations of Polyclonal or Monoclonal Antibodies to Proteins of the Outer Membranes of the Two Infectious Forms of Vaccinia Virus Protect Mice against a Lethal Respiratory Challenge." *J. Virol.* 79 (2005): 13454–13462. PubMed: 16227266.
4. Fogg, C., et al. "Protective Immunity to Vaccinia Virus Induced by Vaccination with Multiple Recombinant Outer

Membrane Proteins of Intracellular and Extracellular Virions." *J. Virol.* 78 (2004): 10230–10237. PubMed: 15367588.

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**Table 1 - Predicted Protein Sequence**

1	<u>DLHHHHHHTC</u>	<u>TVPTMNNAKL</u>	<u>TSTETSFNDK</u>	<u>QKVTFTCDQG</u>	<u>YHSSDPNAVC</u>
51	<u>ETDKWKYENP</u>	<u>CKKMCTVSDY</u>	<u>ISELYNKPLY</u>	<u>EVNSTMTLSC</u>	<u>NGETKYFRCE</u>
101	<u>EKNGNTSWND</u>	<u>TVTCPNAECQ</u>	<u>PLQLEHGSCQ</u>	<u>PVKEKYSFGE</u>	<u>YMTINCDVGY</u>
151	<u>EVIGASYISC</u>	<u>TANSWNVIPS</u>	<u>CQQKCDMPSL</u>	<u>SNGLISGSTF</u>	<u>SIGGVIHLSC</u>
201	<u>KSGFTLTGSP</u>	<u>SSTCIDGKWN</u>	<u>PVLPICVRTN</u>	<u>EEFDPVDDGP</u>	<u>DDETDLKLS</u>
251	<u>KDVVQYEQEI</u>	<u>ESLE</u>			

Non-vaccinia virus amino acids are underlined.