Vaccinia Virus (WR) L1R Protein with C-Terminal Histidine Tag, Recombinant from Baculovirus

Catalog No. NR-21986

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Contributor:
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Manufacturer:
NIH Biodefense and Emerging Infections Research Resources Repository, NIAID, NIH

Product Description:
A recombinant form of the L1R membrane glycoprotein [L1R (185t)] of the Western Reserve (WR) strain of vaccinia virus containing a C-terminal histidine-tag was produced in High-5 insect cells using a baculovirus expression system[1] and purified using nickel affinity chromatography. The predicted protein sequence is shown in Table 1. NR-21986 contains residues 1 to 185 of the L1R protein. The full length L1R protein is 250 residues (GenPept: P07612).[2] NR-21986 was expressed from the same recombinant baculovirus vector as NR-2625, which was produced in cabbage looper *(Trichoplusia ni)* insect larvae.[3]

Material Provided:
Each vial contains approximately 100 µg of NR-21986 in approximately 100 µL of PBS (pH 7.4) with 50% glycerol (v/v). The concentration, expressed as mg per mL, is shown on the Certificate of Analysis.

Packaging/Storage:
NR-21986 was packaged aseptically in cryovials. The product is provided on dry ice and should be stored at -20°C or colder immediately upon arrival. Repeated freeze-thaw cycles of this product should be avoided.

Functional Activity:
NR-21986 was demonstrated to be functionally active based on its reactivity with human polyclonal anti-vaccinia virus immune globulin (VIG; BEI Resources NR-650) and mouse monoclonal antibodies to L1R (BEI Resources NR-417 to NR-421 and NR-566).

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) L1R Protein with C-Terminal Histidine Tag, Recombinant from Baculovirus, NR-21986."

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. 5th ed. Washington, DC: U.S. Government Printing Office, 2007; see www.cdc.gov/od/ohs/biosfty/bmbl5/bmbl5toc.htm.

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References:
1. Aldaz-Carroll, L., et al. "Physical and Immunological Characterization of a Recombinant Secreted Form of the

Membrane Protein Encoded by the Vaccinia Virus L1R Gene." Virology 341 (2005): 59–71. PubMed: 16083934.
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3. O'Connell, K. P., et al. "Production of a Recombinant Antibody Fragment in Whole Insect Larvae." Mol. Biotechnol. 36 (2007): 44-51. PubMed: 17827537.
4. 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.
5. 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.

Support Provided by NIAID

Table 1 - Predicted Protein Sequence

1	*DPA*MGAAASI	QTTVNTLSER	ISSKLEQEAN	ASAQTKCDIE	IGNFYIRQNH
51	GCNLTVKNMC	SADADAQLDA	VLSAATETYS	GLTPEQKAYV	PAMFTAALNI
101	QTSVNTVVRD	FENYVKQTCN	SSAVVDNKLK	IQNVIIDECY	GAPGSPTNLE
151	FINTGSSKGN	CAIKALMQLT	TKATTQIAPK	QVAGTGVQHH	HHHH

Vector-derived amino acids – *Residues 1-3*
L1R – **Residues 4-188**
Histidine tag – Residues 189-194

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