Product Information Sheet for NR-52147

Glycoprotein Gn from Rift Valley Fever Virus with C-Terminal Histidine Tag, Recombinant from Baculovirus

Catalog No. NR-52147

This reagent is the tangible property of the U.S. Government.

For research use only. Not for use in humans.

Contributor and Manufacturer:

BEI Resources

Product Description:

A recombinant form of the aminoterminal glycoprotein (Gn) from Rift Valley fever (RVF) virus, ZH-501 (GenPept: ABD38813) was produced in SF9 insect cells using a baculovirus expression system and purified by nickel affinity chromatography.[1,2] NR-52147 contains 407 residues (ectodomain) of the RVF virus Gn and includes a thrombin cleavage site and C-terminal octa-histidine tag; the N-terminal gp67 secretion signal sequence is presumably cleaved and the T4 foldon trimerization domain is excluded.[1,2] The predicted protein sequence is shown in Figure 1. NR-52147 has a theoretical molecular weight of 46,400 daltons. The crystal structure for glycoprotein from RVF virus has been solved at 1.6 Å resolution (PDB: 6F8P).[3]

Glycoprotein Gn is one of the envelope proteins on the virus surface and a major antigenic component, important for virus entry and fusion.[4]

Material Provided:

Each vial of NR-52147 contains purified recombinant protein in 10 mM Tris (pH 8.0), 250 mM NaCl and 50% glycerol. The concentration and volume are shown on the Certificate of Analysis.

Packaging/Storage:

NR-52147 was packaged aseptically in cryovials. The product is provided frozen and should be stored at -20°C or colder immediately upon arrival. Freeze-thaw cycles should be avoided.

Functional Activity:

NR-52147 reacts with monoclonal anti-histidine tag in western blot analysis. NR-52147 is intended for western blot, ELISA and animal vaccination.[1,3]

Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: Glycoprotein Gn from Rift Valley Fever Virus with C-Terminal Histidine Tag, Recombinant from Baculovirus, NR-52147."

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. 6th ed. Washington, DC: U.S. Government Printing Office, 2020; see www.cdc.gov/biosafety/publications/bmbl5/index.htm.

Disclaimers:

You are authorized to use this product for research use only. It is not intended for human use.

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References:

1. Liu, L., et al. "Rift Valley Fever Virus Structural Proteins: Expression, Characterization and Assembly of Recombinant Proteins." Virol. J. 5 (2008): 82. PubMed: 18638365.
2. Bird, B. H., et al. "Complete Genome Analysis of 33 Ecologically and Biologically Diverse Rift Valley Fever Virus Strains Reveals Widespread Virus Movement and Low Genetic Diversity due to Recent Common Ancestry." J. Virol. 81 (2007): 2805-2816. PubMed: 17192303.

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3. Halldorsson, S., et al. "Shielding and Activation of a Viral Membrane Fusion Protein." Nat. Commun. 9 (2018): 349. PubMed: 29367607.
4. Wu, Y., et al. "Structures of Phlebovirus Glycoprotein Gn and Identification of a Neutralizing Antibody Epitope." Proc. Natl. Acad. Sci. U.S.A. 114 (2017): E7564-E7573. PubMed: 28827346.

Support Provided by NIAID

Figure 1: Predicted Protein Sequence

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1   ADLSEDPHLR NRPGKGHNYI DGMTQEDATC KPVTYAGACS SFDVLLEKGK
51  FPLFQSYAHH RTLLEAVHDT IIAKADPPSC DLQSAHGNPC MKEKLVMKTH
101 CPNDYQSAHY LNNDGKMASV KCPPKYELTE DCNFCRQMTG ASLKKGSYPL
151 QDLFCQSSED DGSKLKTKMK GVCEVGVQAL KKCDGQLSTA HEVVPFAVFK
201 NSKKVYLDKL DLKTEENLLP DSFVCFEHKG QYKGTMDSGQ TKRELKSFDI
251 SQCPKIGGHG SKKCTGDAAF CSAYECTAQY ANAYCSHANG SGIVQIQVSG
301 VWKKPLCVGY ERVVVKRELS AKPIQRVEPC TTCITKCEPH GLVVRSTGFK
351 ISSAVACASG VCVTGSQSPS TEITLKYPGI SQSSGGDIGV HMAHDDQSVS
401 SKIVAHCPPQ DLVPRGSHHH HHHHH
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Gn ectodomain – **Residues 5 to 411** (represents WT amino acid residues 154 to 560)
Thrombin cleavage site – Residues 412 to 417
Hexa-histidine tag – Residues 418 to 425