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PRODUCT INFORMATION



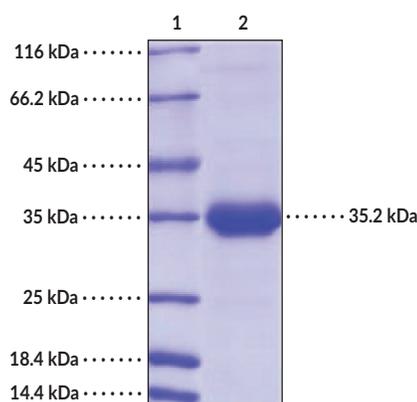
Zika Virus Membrane Protein (strain Zika SPH2015) (recombinant) Item No. 41077

Overview and Properties

Synonyms: ZIKV-M, ZIKV Matrix Protein, ZIKV Small Envelope Protein M
Source: Recombinant C-terminal human IgG1 Fc-tagged Zika virus membrane protein (strain Zika SPH2015) expressed in HEK293 cells
Amino Acids: 216-290
Uniprot No.: A0A0U3FSM8
Molecular Weight: 35.2 kDa
Storage: -80°C (as supplied)
Stability: ≥1 year
Purity: ≥95% estimated by SDS-PAGE
Supplied in: Lyophilized from sterile PBS, pH 7.4
Endotoxin Testing: <1.0 EU/μg, determined by the LAL endotoxin assay
Protein Concentration: *batch specific* mg/ml

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Image



Lane 1: MW Markers
Lane 2: Zika Virus Membrane Protein (strain Zika SPH2015) (recombinant)

SDS-PAGE Analysis of Zika Virus Membrane Protein (strain Zika SPH2015) (recombinant). This protein has a calculated molecular weight of 35.2 kDa.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
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PRODUCT INFORMATION



Description

Zika virus (ZIKV) is a mosquito-borne, positive-stranded RNA virus and a member of the *Flavivirus* genus.^{1,2} ZIKV infection is associated with fever, rashes, and conjunctivitis, as well as more severe symptoms, which include Guillain-Barré syndrome in adults and microcephaly or congenital malformations in fetuses and newborns.^{1,3} The single-stranded RNA genome of ZIKV is translated as a polypeptide, which is cleaved by host and viral proteases into structural capsid (C), precursor membrane (prM), and envelope (E) proteins and seven non-structural proteins: NS1, NS2A, NS2B, NS3, NS4A, NS4B, and NS5.^{1,4} *Flavivirus* membrane proteins, such as ZIKV membrane protein, are translated as a precursor protein, prM, which is translocated to the endoplasmic reticulum (ER).^{5,6} In the ER, prM forms heterodimers with the envelope protein that combine into trimeric projections on the surface of the immature virion.⁶ The prM is translocated to the Golgi apparatus for maturation, where the low pH environment induces reorganization of the projections from trimeric to heterodimeric, allowing the precursor portion to be proteolytically cleaved by furin but to stay associated with the envelope protein and shield its fusion loop to prevent premature membrane fusion.^{6,7} The mature virus particles are composed of envelope and membrane homodimers, with the membrane proteins irreversibly locking the envelope proteins into the mature structure.⁷ In this way, the membrane protein is involved in viral assembly, maturation, and secretion.⁵⁻⁷ ZIKV membrane protein contains cholesterol-binding motifs that, when mutated, reduce infectivity and viral assembly *in vitro*.⁸ Cayman's Zika virus Membrane Protein (strain Zika SPH2015) (recombinant) protein is a disulfide-linked homodimer. The reduced monomer, composed of ZIKV membrane protein (amino acids 216-290) fused to human IgG1 Fc at its C-terminus, consists of 313 amino acids and has a calculated molecular weight of 35.2 kDa.

References

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2. Hu, T., Wu, Z., Wu, S., *et al.* The key amino acids of E protein involved in early flavivirus infection: Viral entry. *Viol. J.* **18**(1), 136 (2021).
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