

PRODUCT INFORMATION

Rift Valley Fever Virus L Protein (TAN/Dod-002/07) (recombinant)

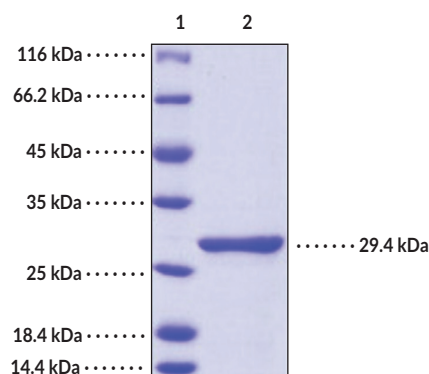
Item No. 40856

Overview and Properties

Synonym:	RVFV RNA-directed RNA Polymerase L
Source:	Recombinant RVFV C-terminal His-tagged L protein expressed in <i>E. coli</i>
Amino Acids:	1-250
Uniprot No.:	F4ZDJ3
Molecular Weight:	29.4 kDa
Storage:	-80°C (as supplied)
Stability:	≥1 year
Purity:	≥90% estimated by SDS-PAGE
Supplied in:	Lyophilized from sterile PBS, pH 7.4
Protein	
Concentration:	<i>batch specific</i> 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: Rift Valley Fever Virus L Protein (TAN/Dod-002/07)

SDS-PAGE Analysis of Rift Valley Fever Virus L Protein (TAN/Dod-002/07). This protein has an apparent molecular weight of 29.4 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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Description

Rift Valley fever virus (RVFV) is a single-stranded negative-sense RNA virus, member of the *Phlebovirus* genus, and mosquito-transmitted pathogen endemic to sub-Saharan Africa and the Arabian peninsula.¹⁻³ The tripartite RNA genome of RVFV is composed of three segments: L, which encodes L protein, a single-polypeptide RNA-dependent RNA polymerase (RdRp), M, which encodes a single open reading frame (ORF) that produces the envelope glycoproteins Gn and Gc and non-structural proteins NSm and Gn/NSm fusion protein, and S, which is ambisense, encoding the nucleoprotein N in the genomic sense orientation, and the non-structural protein and major virulence factor NSs in the antigenomic orientation.^{1,2} RVFV L protein is composed of an N-terminal endonuclease domain linked to a PA-C-like domain, an RdRp core, a PB2-N-like domain, a CBD domain, and a C-terminal lariat domain.⁴ The N-terminal endonuclease domain is essential for cap-snatching during host mRNA transcription, and the RdRp core is essential for viral RNA production. Expression of a dominant-negative L protein mutant inhibits viral gene expression in RVFV-infected BHK/T7-9 cells.⁵ Cayman's Rift Valley Fever Virus L protein (TAN/Dod-002/07) (recombinant) consists of 256 amino acids and has a calculated molecular weight of 29.4 kDa.

References

1. Faburay, B., Wilson, W., McVey, D.S., *et al.* Rift Valley fever virus structural and nonstructural proteins: recombinant protein expression and immunoreactivity against antisera from sheep. *Vector Borne Zoonotic Dis.* **13**(9), 619-629 (2013).
2. Gaudreault, N.N., Indran, S.V., Balaraman, V., *et al.* Molecular aspects of Rift Valley fever virus and the emergence of reassortants. *Virus Genes* **55**(1), (2019).
3. Wang, X., Hu, C., Ye, W., *et al.* Structure of Rift Valley fever virus RNA-dependent RNA polymerase. *J. Virol.* **96**(3), e0171321 (2022).
4. Alamri, M.A., Mirza, M.U., Adeel, M.M., *et al.* Structural elucidation of Rift Valley fever virus L protein towards the discovery of its potential inhibitors. *Pharmaceuticals (Basel)* **15**(6), 659 (2022).
5. Jung, B.-K., An, Y., Park, J.-E., *et al.* Development of a recombinant vaccine containing a spike S1-Fc fusion protein induced protection against MERS-CoV in human DPP4 knockin transgenic mice. *J. Virol. Methods* **299**, 114347 (2022)..

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