

Recombinant Zaire ebolavirus NP Protein, C-His-tagged

Cat. No. NP-07E Lot. No. (See product label)

SPECIFICATION

Product Overview Recombinant Zaire ebolavirus NP Protein, fused to His-tag at C-terminus, was expressed in E. coli.

Species Zaire Ebola virus

Source E.coli

Description

Ebola and Marburg viruses are both filamentous, enveloped, non-segmented, negative-stranded RNA viruses of the family Filoviridae in the order Mononegavirales (Curran and Kolakofsky, 1999; Sanchez et al., 2001). Ebola virus particles comprise seven structural proteins of which four (nucleoprotein (NP), VP35, VP30, and the RNA-dependent RNA polymerase (L)) are components of the ribonucleoprotein complex that is responsible for viral genome replication. Glycoprotein (GP), VP40, and VP24 are membrane-associated proteins and VP24 is believed to be involved in nucleocapsid formation.

Ebola virus NP is the largest nucleoprotein of the non-segmented negative-stranded RNA viruses (739 amino acid residues) and can be divided into a N-terminal hydrophobic region (approximately 350 amino acids) and a C-terminal hydrophilic region (Watanabe et al., 2006). The antigenic regions on the NPs of Ebola and Marburg viruses are located on the C-terminal regions of the virus genomes. The C-terminal 110 and 102 amino acids of the NPs of Ebola virus and Marburg virus, respectively, possess strong antigenicity (Saijo et al., 2001). The nucleoprotein gene is located proximal to the 3' end of the genome and is preceded by a putative leader sequence (Sanchez et al., 1989). O glycosylation and sialylation of NP is

 Tel: 1-631-559-9269 1-516-512-3133

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 45-1 Ramsey Road, Shirley, NY 11967, USA

required for its interaction with VP35, and may be important for viral genome replication. The Zaire Ebola virus NP RNA complex has been described at near-atomic resolution using C-terminally truncated protein (residues 1–450) in a human cell line in which it sequestered cellular RNA and assembled it into a rigid helix indistinguishable from the viral nucleocapsid core (Sugita et al., 2018).

Despite the fact that severe hemorrhagic fever caused by Ebola virus is associated with extremely high mortality rates in human and nonhuman primates, an effective vaccine or antiviral drug is still to be developed. Ebola virus NP-specific CTLs have been shown to protect mice following vaccination, inducing antibodies to both the NP and a major histocompatibility complex class I-restricted CTL response to an 11-amino-acid sequence in the amino-terminal portion of NP (Wilson and Hart, 2001). This Ebola Virus Nucleoprotein (NP) (Zaire) has been developed to aid in the ongoing research efforts towards developing new vaccine candidates and in vitro diagnostics.

Form	Liquid. Centrifuge before opening to ensure complete recovery of vial contents.
Purity	>95% pure (12% SDS-PAGE, Coomassie blue stain).
Applications	Immunoassay For Research Use Only.
Storage	Store at -20 centigrade. For long-term storage, store at -80 centigrade. Avoid multiple freeze/thaw cycles.
Concentration	~0.75 mg/ml
Storage Buffer	Phosphate buffer, 0.02% sodium azide.
Shipping	Dry ice

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GENE INFORMATION

Gene Name NP nucleoprotein [Zaire ebolavirus]

Official Symbol NP

Gene ID 911830

Protein Refseq NP_066243.1

UniProt ID P18272

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