

Nucleoprotein/NP Protein, H1N1 (Q5UEW0, sf9, His)

Cat. No.:	HY-P74675
Synonyms:	Influenza A H1N1 (A/Brevig Mission/1/1918) Nucleoprotein / NP Protein (sf9, His)
Species:	Virus
Source:	Sf9 insect cells
Accession:	Q5UEW0 (M1-N498)
Gene ID:	/
Molecular Weight:	Approximately 57.7 kDa

PROPERTIES

Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μ m filtered solution of 20 mM Tris, 500 mM NaCl, 10% Glycerol, pH 7.4. Normally 5% - 8% trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.
Endotoxin Level	<1 EU/ μ g, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 μ g/mL in ddH ₂ O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	<p>Nucleoprotein (NP) plays a crucial role in encapsidating the negative strand viral RNA, offering protection against nucleases. This encapsidated genomic RNA, known as the ribonucleoprotein (RNP), serves as a template for transcription and replication. To initiate an infectious cycle, the RNP needs to be localized in the host nucleus; however, its large size prevents diffusion through the nuclear pore complex. NP contains at least two nuclear localization signals that actively facilitate RNP import into the nucleus via the cellular importin alpha/beta pathway. Subsequently, the nuclear export of RNPs is mediated by viral proteins NEP, which interacts with M1 that binds to nucleoproteins. It is also possible that NP directly binds to host exportin-1/XPO1, actively participating in RNPs nuclear export. The interaction between M1 and RNP appears to mask NP's nuclear localization signals. However, upon infecting a new cell, M1 dissociates from RNP due to acidification driven by M2 protein, thereby revealing NP's nuclear localization signals and facilitating targeted RNP transport into the nucleus. Additionally, NP forms homomultimers to create the nucleocapsid and may bind to viral genomic RNA. The protein-RNA interactions involve a combination of electrostatic interactions between positively charged residues and the phosphate backbone, as well as planar interactions between aromatic side chains and bases.</p>
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Caution: Product has not been fully validated for medical applications. For research use only.

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