Nucleoprotein/NP Protein, H3N2 (P22435, sf9, His)

Cat. No.:	HY-P74669
Synonyms:	Influenza A H3N2 (A/Hong Kong/1/1968) Nucleoprotein / NP Protein (sf9, His)
Species:	Virus
Source:	Sf9 insect cells
Accession:	P22435 (M1-N498)
Gene ID:	/
Molecular Weight:	Approximately 59.9 kDa

PROPERTIES

Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μm filtered solution of 20 mM Tris, 500 mM NaCl, 10% Glycerol, pH 8.0. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O.
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	The Nucleoprotein (NP) encapsidates the negative strand viral RNA, safeguarding it against nucleases, and forms the ribonucleoprotein (RNP) complex that serves as a template for transcription and replication. To initiate an infectious cycle, the RNP needs to be localized in the host nucleus; however, it is too large to diffuse through the nuclear pore complex. NP contains at least 2 nuclear localization signals that actively facilitate RNP import into the nucleus via the cellular importin alpha/beta pathway. During later stages of infection, the nuclear export of RNPs is mediated by viral proteins NEP, which interact with M1, a protein that binds to nucleoproteins. NP may also directly bind to host exportin-1/XPO1, playing a crucial role in RNP nuclear export. The interaction between M1 and RNP conceals NP's nuclear localization signals. Following the infection of a new cell, M1 dissociates from the RNP due to acidification driven by M2 protein, uncovering NP's nuclear localization signals and allowing targeted RNP transport into the nucleus. Additionally, NP forms homomultimers to create the nucleocapsid and may bind to viral genomic RNA. 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.

Caution: Product has not been fully validated for medical applications. For research use only.

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