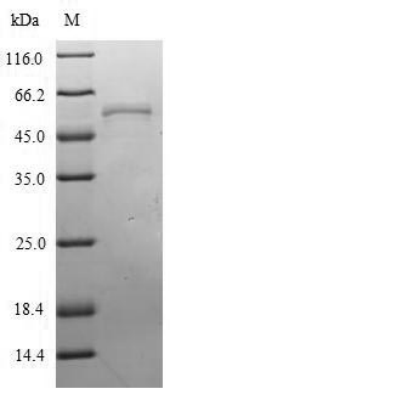
Recombinant Influenza A virus Nucleoprotein (NP)

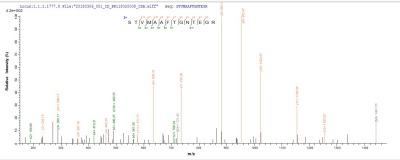
Product Code	CSB-EP302450IGF
Relevance	Encapsidates the negative strand viral RNA, protecting it from nucleases. The encapsidated genomic RNA is termed the ribonucleoprotein (RNP) and serves as template for transcription and replication. The RNP needs to be localized in the nucleus to start an infectious cycle, but is too large to diffuse through the nuclear pore complex. NP comprises at least 2 nuclear localization signals and is responsible of the active RNP import into the nucleus through the cellular importin alpha/beta pathway. Later in the infection, nucleus export of RNP are mediated through viral proteins NEP interacting with M1 which binds nucleoproteins. It is possible that the nucleoprotein binds directly exportin-1 (XPO1) and plays an active role in RNP nuclear export. M1 interaction with RNP seems to hide nucleoprotein's nuclear localization signals. Soon after a virion infects a new cell, M1 dissociates from the RNP under acidification of the virion driven by M2 protein. Dissociation of M1 from RNP unmask nucleoprotein's nuclear localization signals, targeting the RNP to the nucleus
Abbreviation	Recombinant Influenza A virus NP protein
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	P69296
Alias	Nucleocapsid protein Short name: Protein N
Product Type	Recombinant Protein
Immunogen Species	Influenza A virus
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	MASQGTKRSYEQMETDGERQNATEIRASVGKMIDGIGRFYIQMCTELKLSDYE GRLIQNSLTVERMVLSAFDERRNRYLEEHPSAGKDPKKTGGPIYKRVGGRWM RELVLYDKEEIRRIWRQANNGDDATRGLTHMMIWHSNLNDTTYQRTRALVRT GMDPRMCSLMQGSTLPRRSGAAGAAVKGIGTMVMELIRMIKRGINDRNFWRG ENGRKTRSAYERMCNILKGKFQTAAQRAMMDQVRESRNPGNAEIEDLIFSAR SALILRGSVAHKSCLPACVYGPAVSSGYDFEKEGYSLVGIDPFKLLQNSQVYSL IRPNENPAHKSQLVWMACHSAAFEDLRLLSFIRGTKVSPRGKLSTRGVQIASN ENMDNMESSTLELRSRYWAIRTRSGGNTNQQRASAGQISVQPTFSVQRNLPF EKSTVMAAFTGNTEGRTSDMRAEIIRMMEGAKPEEVSFRGRGVFELSDEKAT NPIVPSFDMSNEGSYFFGDNAEEYDN
Research Area	Microbiology
Source	E.coli
Target Names	NP
Protein Names	Recommended name: Nucleoprotein Alternative name(s): Nucleocapsid protein Short name= Protein N

Expression Region	1-498aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 6xHis-tagged
Mol. Weight	60.2kDa
Protein Length	Full Length

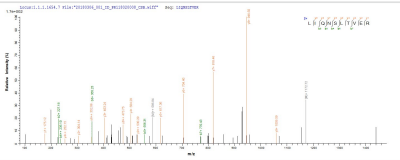
Image



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.



Based on the SEQUEST from database of E.coli host and target protein, the LC-MS/MS Analysis result of CSB-EP302450IGF could indicate that this peptide derived from E.coli-expressed Influenza A virus (strain A/Shanghai/16/1989 H3N2) NP.



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Description

A DNA sequence encoding the 1-498 aa of Influenza A virus was expressed with an N-terminal 6xHis-tag in E.coli. The resulting protein is a recombinant full-length Influenza A virus Nucleoprotein (NP). Its identity was confirmed by the LC-MS/MS Analysis. SDS-PAGE assay determined its purity greater than 90%. This NP protein may be used for specific antibody synthesis or in the studies of the microbiology research area.

Influenza A virus NP is a structural protein with the most abundant expression and no intrinsic enzymatic activity in infected cells. It mainly encapsidates the segmented RNA and then combines with the three polymerase subunits (PA, PB1, and PB2) to form the viral ribonucleoprotein particles (vRNPs) for RNA transcription ? replication, and packaging. Various nuclear localization signals (NLS) in the amino acid sequence of NP are responsible for the active RNP import into the nucleus. Besides, NP is one of the main determinants of influenza species specificity. The self-oligomerization of NP is essential for its

	function.
Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL.We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.
Shelf Life	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.