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SARS virus PUP5 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP6005a

Product Information

Application	E
Primary Accession	P59595
Reactivity	SARS
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB3801
Calculated MW	46025
Antigen Region	1-30

Additional Information

Other Names	Nucleoprotein, Nucleocapsid protein, NC, Protein N, N
Target/Specificity	This SARS virus PUP5 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 1~30 amino acids from the N-terminus region of SARS nucleocapsid protein.
Dilution	E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	SARS virus PUP5 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	N {ECO:0000255|HAMAP-Rule:MF_04096}
Function	Packages the positive strand viral genome RNA into a helical ribonucleocapsid (RNP) and plays a fundamental role during virion assembly through its interactions with the viral genome and membrane protein M. Plays an important role in enhancing the efficiency of subgenomic viral RNA transcription as well as viral replication (PubMed:17210170). May modulate transforming growth factor-beta signaling by binding host SMAD3 (PubMed:18055455).

Cellular Location	Virion {ECO:0000255|HAMAP-Rule:MF_04096, ECO:0000269|PubMed:17210170, ECO:0000269|PubMed:19106108}. Host endoplasmic reticulum-Golgi intermediate compartment {ECO:0000255|HAMAP-Rule:MF_04096, ECO:0000269|PubMed:17210170}. Host Golgi apparatus {ECO:0000255|HAMAP-Rule:MF_04096, ECO:0000269|PubMed:17210170}. Host cytoplasm, host perinuclear region. Host nucleus. Note=Located inside the virion, complexed with the viral RNA. Probably associates with ER-derived membranes where it participates in viral RNA synthesis and virus budding. {ECO:0000255|HAMAP-Rule:MF_04096}

Background

An outbreak of atypical pneumonia, referred to as severe acute respiratory syndrome (SARS) and first identified in Guangdong Province, China, has spread to several countries. The severity of this disease is such that the mortality rate appears to be ~3 to 6%. A number of laboratories worldwidehave undertaken the identification of the causative agent. The National Microbiology Laboratory in Canada obtained the Tor2 isolate from a patient in Toronto, and succeeded in growing a coronavirus-like agent in African Green Monkey Kidney (Vero E6) cells. This coronavirus has been named publicly by the World Health Organization and member laboratories as ?SARS virus? The SARS membrane proteins, including the major proteins S (Spike) and M (Membrane), are inserted into the endoplasmic reticulum Golgi intermediate compartment (ERGIC) while full length replicated RNA (+ strands) assemble with the N (nucleocapsid) protein. The virus then migrates through the Golgi complex and eventually exits the cell, likely by exocytosis. The site of viral attachment to the host cell resides within the S protein. Oligomeric spike (S) glycoproteins extend from SARS membranes. These integral membrane proteins assemble within the endoplasmic reticulum of infected cells and are subsequently endoproteolyzed in the Golgi, generating noncovalently associated S1 and S2 fragments. Once on the surface of infected cells and virions, peripheral S1 fragments bind carcinoembryonic antigen-related cell adhesion molecule (CEACAM) receptors, and this triggers membrane fusion reactions mediated by integral membrane S2 fragments.

References

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Snijder, E.J., et al., J. Mol. Biol. 331(5):991-1004 (2003).
Marra, M.A., et al., Science 300(5624):1399-1404 (2003).
Krokhin, O., et al., Mol Cell Proteomics 2(5):346-356 (2003).

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