

Recombinant SARS Coronavirus Nucleoprotein

Cat. No. HUM-318 **Lot. No.** (See product label)

SPECIFICATION

Product Overview

SARS Coronavirus Nucleoprotein (N-Term) is a recombinant protein (also known as the nucleocapsid core antigen) comprising amino acids 1-49 immunodominant regions. It is manufactured in E. coli and immunoreactive with sera from SARS-infected individuals.

Background

Coronaviruses are species of virus belonging to the subfamily Coronavirinae in the family Coronaviridae, in the order Nidovirales. They are enveloped viruses with positive-stranded, capped, and polyadenylated RNA genomes ranging in size from 28 to 32 kb. Two-thirds of the viral genome starting from the 5'end encode replicase proteins, Rep1a and Rep1b, for the amplification of CoV RNA. Structural proteins, including spike (S), envelope (E), membrane (M), nucleocapsid (N), and several others with unknown functions, are also expressed (Lai et al., 1997).

They can cause severe respiratory disease and gastrointestinal illnesses in both humans and animals. During virus replication, a variety of proteins are synthesised including the viral RNA binding protein, nucleoprotein (N or nucleocapsid protein), a multi-functional protein with roles in both the virus life cycle and modulating host cell function. One of the key functions of the N protein is to bind viral RNA and selectively incorporate it into virus particles. The genome RNA is complexed with the basic nucleocapsid (N) protein to form a helical capsid found within the viral membrane. The nucleocapsid proteins of coronaviruses representing groups I, II, and III have been shown to localize to the nucleolus as well as to the cytoplasm suggesting that N protein induces a cell cycle delay or arrest, most likely in the G2/M phase, possibly by inhibition of cytokines (Weiss and Navas-Martin, 2005).

The Severe Acute Respiratory Syndrome (SARS) coronavirus was first identified in

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2003 when it caused an epidemic of fatal human pneumonia cases that rapidly spread to multiple countries from an epicenter in Hong Kong. During the period of infection, there were 8,098 reported cases of SARS and 774 deaths. There's currently no cure for SARS, and research to find a vaccine is ongoing. However, the nucleoprotein can serve as a useful target for the early diagnosis of infection.

Purity ~90% as determined by SDS-PAGE.

Applications For use in ELISA and WB.

Notes This product is intended for research and manufacturing uses only. It is not a diagnostic device. The user assumes all responsibility for care, custody and control of the material, including its disposal, in accordance with all regulations.

Type Recombinant

ClassID 1 Infectious Disease

GENE INFORMATION

Synonyms SARS Coronavirus Nucleoprotein

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