

Recombinant SARS Coronavirus Envelope Protein

Cat. No. HUM-314 **Lot. No.** (See product label)

SPECIFICATION

Product Overview

SARS Coronavirus Envelope Protein is a recombinant antigen which contains the N-terminus (1-76 amino acids) of the Envelope protein immunodominant regions. It is manufactured in E. coli and is immunoreactive with sera from SARS-infected individuals.

Background

Coronaviruses (CoVs) (order Nidovirales, family Coronaviridae, subfamily Coronavirinae) are enveloped viruses with a positive sense, single-stranded RNA genome. With genome sizes ranging from 26 to 32 kilobases (kb) in length. They infect humans and cause disease to varying degrees, from upper respiratory tract infections (URTIs) resembling the common cold, to lower respiratory tract infections (LRTIs) such as bronchitis, pneumonia, and even severe acute respiratory syndrome (SARS). SARS-CoV and MERS-CoV cause severe infections that lead to high mortality rates (CDC, 2017; WHO, 2004).

The coronaviral genome encodes four major structural proteins: the spike (S) protein, nucleocapsid (N) protein, membrane (M) protein, and the envelope (E) protein, all of which are required to produce a structurally complete viral particle [29, 37, 38]. The E protein is the smallest of the major structural proteins. During the replication cycle, E is abundantly expressed inside the infected cell, but only a small portion is incorporated into the virion envelope. E participates in viral assembly, release of virions and pathogenesis of the virus. The majority of the protein is localised at the site of intracellular trafficking, the ER, Golgi, and ERGIC, where it participates in CoV assembly and budding. Recombinant CoVs lacking E exhibit significantly reduced viral titres, crippled viral maturation, or yield propagation incompetent progeny, demonstrating the importance of E in virus production and maturation (reviewed in

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Schoeman and Fielding, 2019).

Purity

Purity ~90% as determined by SDS-PAGE.

Applications

For use in ELISA and other immunoassays.

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 Envelope

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