Accessory proteins are recruited to the maturing virion

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Introduction

Reactome is open-source, open access, manually curated and peer-reviewed pathway database. Pathway annotations are authored by expert biologists, in collaboration with Reactome editorial staff and cross-referenced to many bioinformatics databases. A system of evidence tracking ensures that all assertions are backed up by the primary literature. Reactome is used by clinicians, geneticists, genomics researchers, and molecular biologists to interpret the results of high-throughput experimental studies, by bioinformaticians seeking to develop novel algorithms for mining knowledge from genomic studies, and by systems biologists building predictive models of normal and disease variant pathways.

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Literature references


Reactome database release: 77

This document contains 1 reaction (see Table of Contents)
Accessory proteins are recruited to the maturing virion

Stable identifier: R-HSA-9694528

Type: binding

Compartments: endoplasmic reticulum-Golgi intermediate compartment membrane

Diseases: COVID-19

Inferred from: Accessory proteins are recruited to the maturing virion (Homo sapiens)

This COVID-19 event has been created by a combination of computational inference (see https://reactome.org/documentation/inferred-events) from SARS-CoV-1 data and manual curation, as described in the summation for the overall SARS-CoV-2 infection pathway.

In addition to the main structural proteins and the nucleocapsid, the mature virion may also contain low proportions of accessory proteins, including protein 3a and 7a (reviewed in McBride and Fielding, 2012). Protein 3a has been shown to interact with E, M, S and protein 7a and is estimated to be present in the virion at 2/3 the molar ratio of E protein (Ito et al, 2005; Shen et al, 2005; Tan et al, 2004). Although 3a tetramers are predicted to act as ion channels in the host plasma membrane, increasing cell permeability, the role of 3a in the mature virion is not clear (Lu et al, 2006; reviewed in McBride and Fielding, 2012). Protein 7a is type 1 transmembrane protein that interacts with M, E, S and protein 3a and may be incorporated into the mature virion. What functional role protein 7a may play in the assembled virion is unclear (Huang et al, 2006; Fielding et al, 2004; Tan et al, 2004).

Literature references


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