TMPRSS2 Mediated SARS-CoV-2 Spike Protein Cleavage and Endocytosis

Acencio, ML., Gillespie, ME.
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)
TMPRSS2 Mediated SARS-CoV-2 Spike Protein Cleavage and Endocytosis

Stable identifier: R-HSA-9694661

Type: transition

Compartments: plasma membrane

Diseases: COVID-19

Inferred from: TMPRSS2 Mediated SARS-CoV-1 Spike Protein Cleavage and Endocytosis (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.

Transmembrane protease serine 2 (TMPRSS2), associated with the plasma membrane of the host cell, mediates the hydrolytic cleavage of SARS-CoV-2 Spike (S) protein component of the viral membrane-associated S3:M:E:encapsidated SARS coronavirus genomic RNA: 7a:O-glycosyl 3a tetramer complex associated with ACE2 (Matsuyama et al. 2010; Glowacka et al. 2011; Shulla et al. 2011).

Literature references


### Editions

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