nsp8 generates RNA primers

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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)
nsp8 generates RNA primers

Stable identifier: R-HSA-9681651

Type: uncertain

Compartments: cytosol, double membrane vesicle viral factory outer membrane

Diseases: severe acute respiratory syndrome

nsp8 functions as an RNA-dependent RNA polymerase (RdRp) that serves as the primase for nsp12, the main RdRp of the SARS coronavirus 1 (SARS-CoV-1) (Imbert et al. 2006), as it is capable of de novo RNA synthesis (te Velthuis et al. 2011). nsp8 synthesizes short oligonucleotides (less than 6 bases long) using genomic RNA as a template. nsp8 requires at least one cytidine residue in the template sequence for its activity. Activity is dependent on manganese ions (Imbert et al. 2006). nsp8 can also extend primers but is 20-fold less efficient than nsp12 (te Velthuis et al. 2011).

Literature references


Editions

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