

NS1 binds PKR

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02/05/2024

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.

The development of Reactome is supported by grants from the US National Institutes of Health (P41 HG003751), University of Toronto (CFREF Medicine by Design), European Union (EU STRP, EMI-CD), and the European Molecular Biology Laboratory (EBI Industry program).

Literature references

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Reactome database release: 88

This document contains 1 reaction ([see Table of Contents](#))

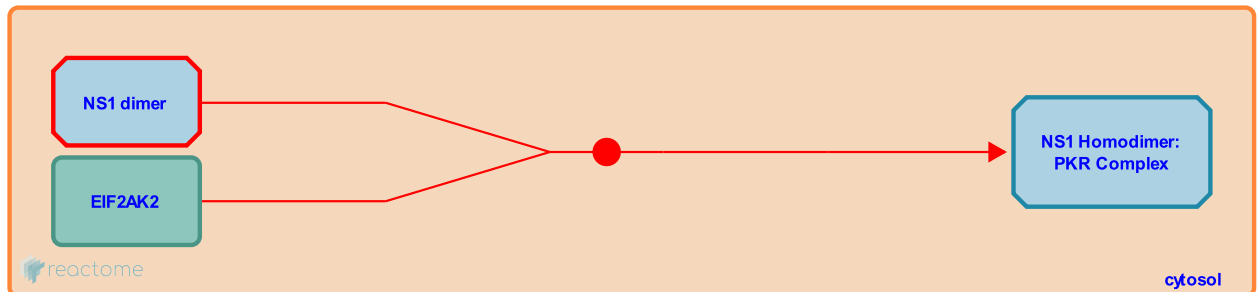
NS1 binds PKR [↗](#)

Stable identifier: R-HSA-168896

Type: binding

Compartments: cytosol

Diseases: influenza



Influenza virus inhibits the host double-stranded-RNA-activated protein kinase (PKR) in several steps. First, PKR binds the viral non-structural protein NS1, an interaction in which the NS1 N terminus is critical. This interaction inhibits PKR dimerization and autophosphorylation, resulting in sustained general protein translation despite the presence of dsRNA. The inhibition of PKR is an indispensable contribution of NS1 to the viral life cycle (Tan & Katze, 1998; Hatada et al, 1999; Bergmann et al, 2000; Li et al, 2006; Dauber et al, 2006; Schierhorn et al, 2017).

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Editions

2004-05-12	Reviewed	Gale M, Jr.
2013-11-18	Authored	Gillespie, ME.
2023-08-16	Edited	Stephan, R.