pagA binds ANTXR1

D'Eustachio, P., Leppla, SH., Liu, S., Moayeri, M., Turk, BE.

European Bioinformatics Institute, New York University Langone Medical Center, Ontario Institute for Cancer Research, Oregon Health and Science University.

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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

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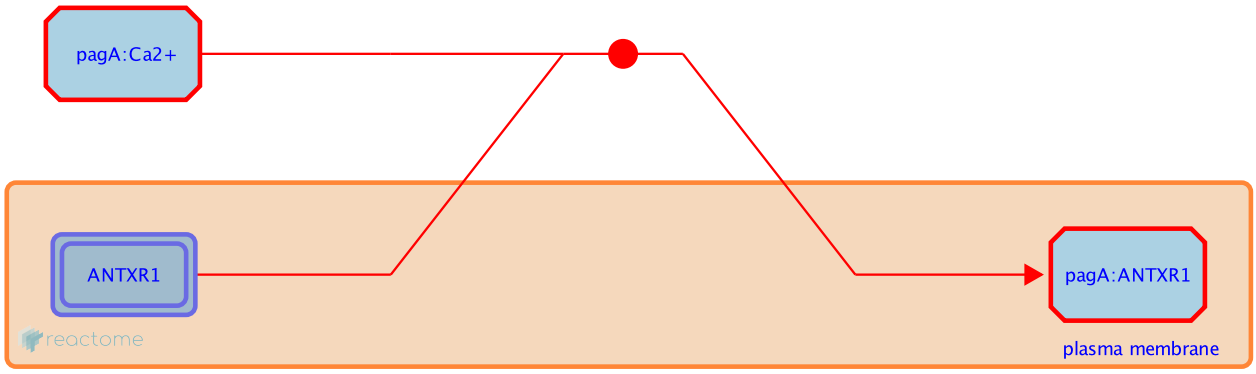
pagA binds ANTXR1

Stable identifier: R-HSA-5210921

Type: binding

Compartments: extracellular region, plasma membrane

Diseases: anthrax disease



Extracellular pagA (also known as PA83 - full length Protective Antigen - Petosa et al. 1997) produced by Bacillus anthracis binds to either of two isoforms of ANTXR1 (Anthrax Toxin Receptor 1, also known as TEM8 - Bradley et al. 2001; Liu and Leppla 2003) in the plasma membrane of a target human cell. The physiological ligand for ANTXR1 is not known nor are the physiological roles of the two ANTRX1 isoforms. Although ANTXR1 can act as a relatively low affinity pagA receptor in tissue culture model systems, it does not play a primary role in anthrax toxin induced effects in mouse models (Liu et al. 2009). While some studies suggest that ANTXR1 is associated with palmitoylated LRP6 (low density lipoprotein receptor related protein 6 - Abrami et al. 2008) in the plasma membrane and that the latter molecule can function as a co-receptor (Wei et al. 2006), the role of LRP6 in PA83 uptake remains uncertain (reviewed by van der Goot & Young 2009) and no function for LRP6 is annotated here.

Literature references

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Editions

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