Clathrin recruits PIK3C2A

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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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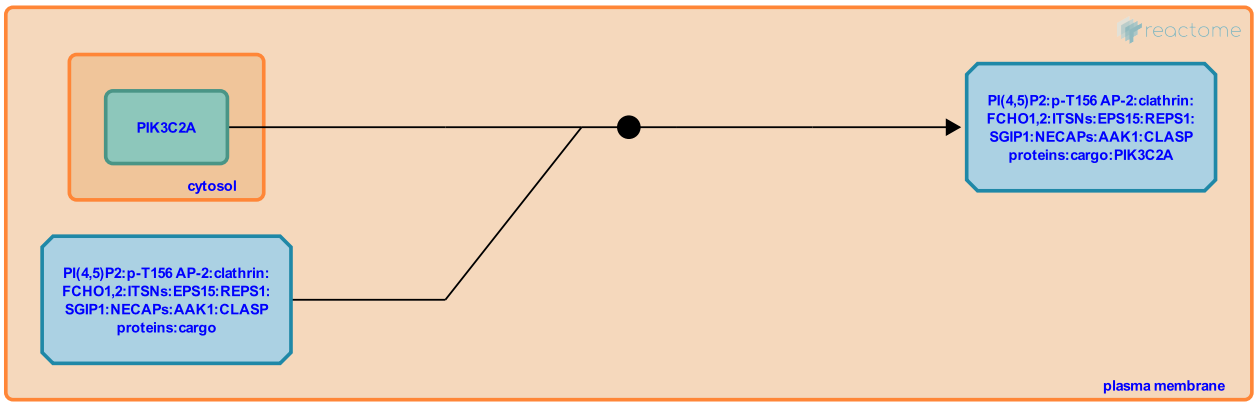
Stable identifier: R-HSA-8868071

Type: binding

Compartments: plasma membrane



PIK3C2A is a member of the class II PI 3 kinases, and phosphorylates PI(4)P to PI(3,4)P2 at the plasma membrane. PIK3C2A interacts with clathrin through a clathrin-binding domain in its unique N-terminal tail and localizes to late-stage clathrin-coated pits (Domin et al, 2000; Gaidarov et al, 2001; Gaidarov et al, 2005). Binding to clathrin stimulates the kinase activity of PIK3C2A and promotes the production of PI(3,4)P2 at the plasma membrane (Gaidarov et al, 2001). PI(3,4)P2 formation by PIK3C2A contributes to maturation of clathrin-coated pits by promoting the recruitment of BAR-domain containing proteins such as SNX9, which stimulate membrane curvature required for vesicle formation and eventual fission (Posor et al, 2013; reveiwed in Daumke et al, 2014).

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Editions

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