

trans-Golgi Network Coat Assembly

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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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Reactome database release: 88

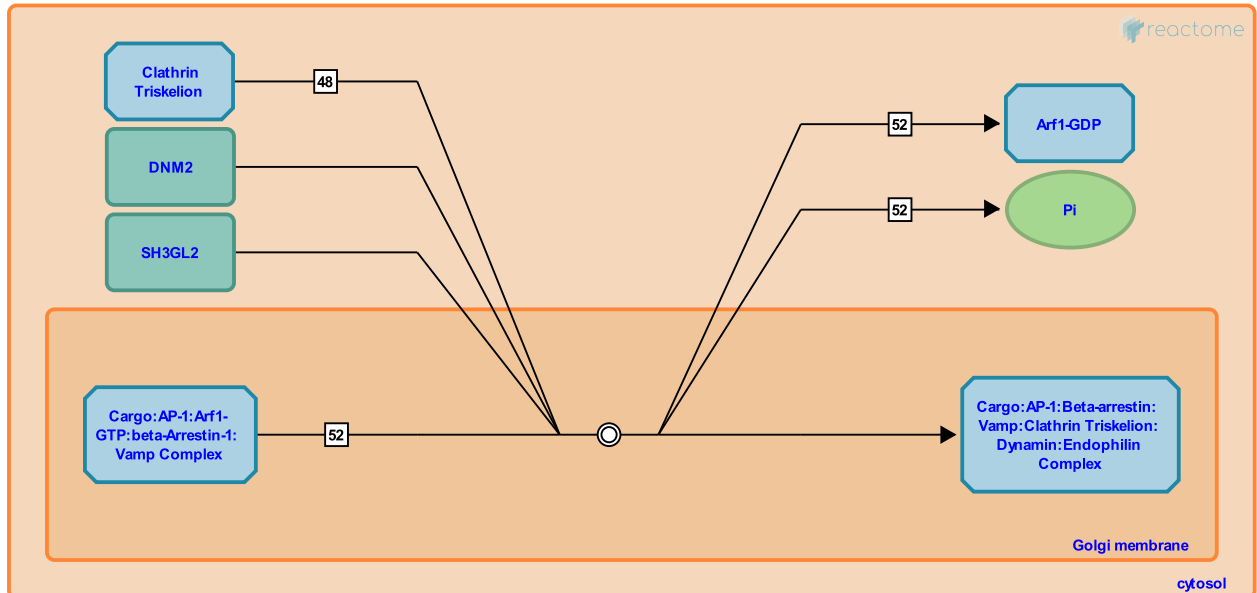
This document contains 1 reaction ([see Table of Contents](#))

trans-Golgi Network Coat Assembly [↗](#)

Stable identifier: R-HSA-421831

Type: dissociation

Compartments: Golgi membrane, cytosol



Once the basic components of the docking complex are assembled with one end of AP-1 bound to cargo molecules, the other end binds to clathrin. Clathrin triskelions polymerize into hexagons and pentagons, forming a cage, which leads to membrane deformation. This polymerization step drives the sculpting of the vesicle. The number of clathrin triskelions required to sculpt a vesicle appears to be variable, but has been estimated to require 36 - 60 triskelions associated with 30 - 66 AP-1 complexes. Here a ~380 angstroms vesicle is represented with 48 clathrin triskelions and 52 AP-1 complexes.

Literature references

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Roseman, AM., Pearce, BM., Smith, CJ., Musacchio, A., Kirchhausen, Tomas., Harrison, SC. (1999). Functional organization of clathrin in coats: combining electron cryomicroscopy and X-ray crystallography. *Mol Cell*, 3, 761-70. [↗](#)

Editions

2008-05-22	Edited	Gillespie, ME.
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