Assembly of IFT A complex

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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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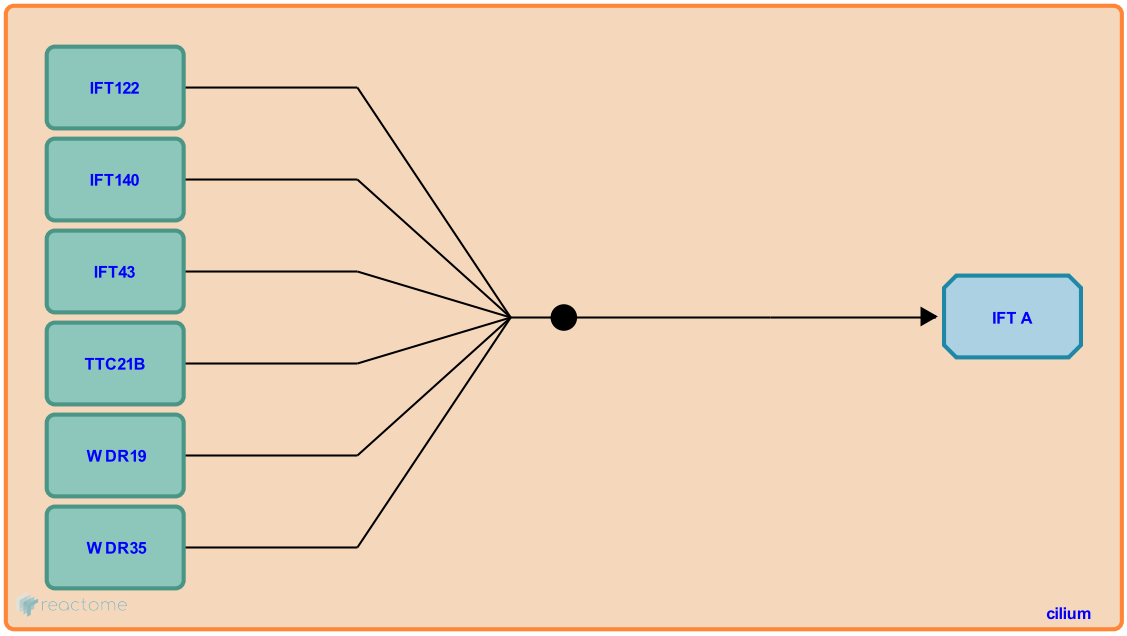
Stable identifier: R-HSA-5617829

Type: binding

Compartments: cilium



The IFT A complex is believed to be composed of six components: WDR19/IFT144, IFT140, IFT122, TTC21B/IFT139, WDR35/IFT121 and IFT43 (Piperno et al, 1998; Cole and Snell, 2009; reviewed in Taschner et al, 2012). Each of these proteins was identified as a TULP3-interacting protein in human cells, supporting the notion established in other organisms that they are all components of the IFT A complex (Mukhopadhyay et al, 2010; reviewed in Taschner et al, 2012). The IFT A proteins are large and generally have similar domain organization, consisting of N-terminal WD motifs and C-terminal TPR repeats. These protein interaction domains may help the IFT A complex scaffold recruitment of the IFT B complex, as well as recruit ciliary cargo and motor proteins. Intriguingly, the domain structure of IFT A proteins is similar to that of nucleoporins and coat proteins and it has been suggested that they evolved from a coat protein precursor, consistent with a role in vesicle trafficking (Devos et al, 2004; Jekely and Arendt, 2006).
Details of protein-protein interactions within the IFT A complex are not known, nor are the details of how and where the complex assembles in a human cell.

Literature references

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Editions

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