WNT binds to FZD and LRP5/6

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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


Reactome database release: 69

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The canonical WNT signaling pathway is initiated when WNT ligands bind to the 7 pass transmembrane receptor Frizzled (FZD) proteins (reviewed in Saito-Diaz et al, 2013). The single pass low-density lipoprotein receptor-related protein (LRP) 5/6 membrane proteins are thought to act as co-receptors with FZD proteins for WNTs, although the details are not fully worked out and a FZD:LRP interaction has not been demonstrated with endogenous proteins in vivo (reviewed in He et al, 2004). LRP5/6 have also been shown to bind directly to a subset of WNT proteins, although the data is conflicting (see for instance Tamai et al, 2000; Semenov et al, 2001; Cong et al, 2004; Wu and Nusse, 2002; Mao et al, 2001). Recent crystal structures have demonstrated direct binding of purified WNT proteins to LRP6 and FZD8 in vitro (Ahn et al, 2011; Janda et al, 2012; Chu et al, 2013), but it is not clear whether the LRP and FZD receptors bind WNTs independently, sequentially or cooperatively in vivo (reviewed in He et al, 2004; Saito-Diaz et al, 2013).

**Literature references**


## Editions

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