PDGF dimer binds two receptors simultaneously

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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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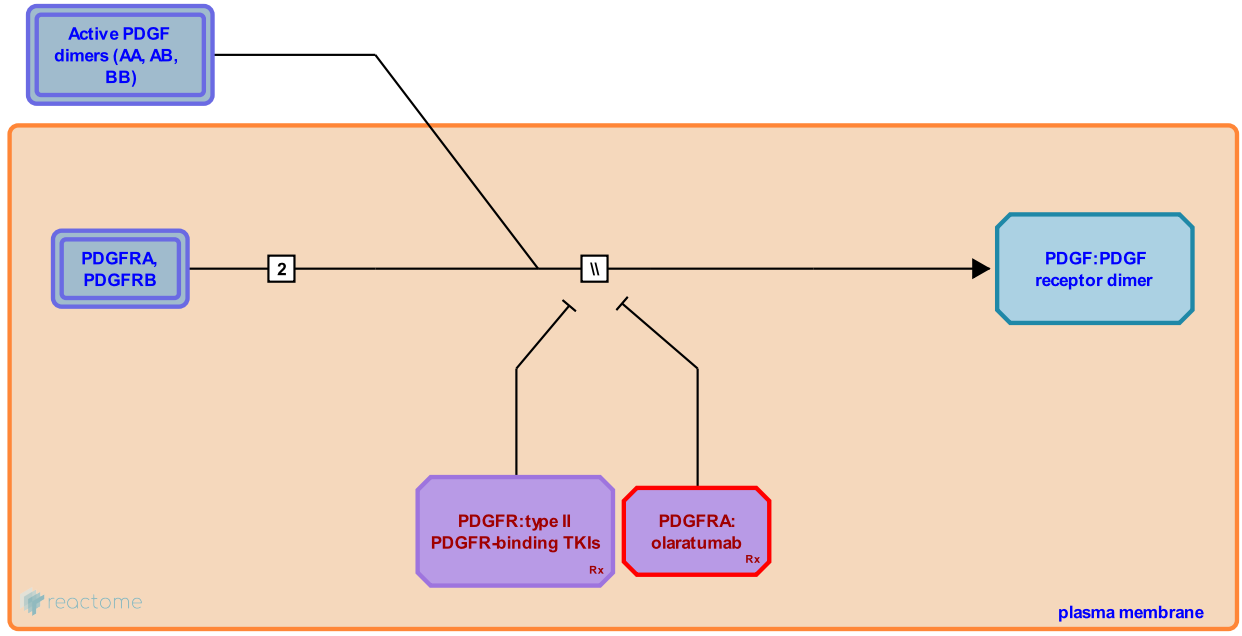
Stable identifier: R-HSA-186773

Type: omitted

Compartments: plasma membrane



PDGF dimer binds two receptors simultaneously. The receptors dimerise on ligand binding and undergo conformational change which is key to receptor autophosphorylation (reviewed in Heldin et al, 1998). PDGFRA and PDGFRB activity can be inhibited by binding to type I and type II tyrosine kinase inhibitors (reviewed in Roskoski, 2018). Type I inhibitors such as crenolanib, avripatinib and pazopanib, bind to the active conformation of the receptor, while type II inhibitors like imatinib, sorafenib and others bind to the inactive conformation (Gril et al, 2013; Wang et al, 2014; Mathias et al, 2015; Meliau et al, 2017; Lombardo et al, 2004; Chen et al, 2006; Matsui et al, 2008; Liu et al, 2011; Hilberg et al, 2008; Hilberg et al, 2017; Wilhelm et al, 2002; Strumberg et al, 2005; Mendel et al, 2003; Roskoski, 2007). PDGFRA signaling can also be inhibited by the monoclonal antibody olaratumab, which interferes with binding of AA, BB and CC ligand to the receptor (Gerber et al, 2012; Loizos et al, 2005; Matei et al, 2006; Russell et al, 2010; Stock et al, 2007).

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Editions

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