Peptide ligand-binding receptors

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This is just an excerpt of a full-length report for this pathway. To access the complete report, please download it at the Reactome Textbook.

14/12/2022
**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.

The development of Reactome is supported by grants from the US National Institutes of Health (P41 HG003751), University of Toronto (CFREF Medicine by Design), European Union (EU STRP, EMI-CD), and the European Molecular Biology Laboratory (EBI Industry program).

**Literature references**


Reactome database release: 83

This document contains 7 pathways and 43 reactions (see Table of Contents)
Peptide ligand-binding receptors

Stable identifier: R-HSA-375276

These receptors, a subset of the Class A/1 (Rhodopsin-like) family, all bind peptide ligands which include the chemokines, opioids and somatostatins.

Literature references


Editions

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<td>2016-11-18</td>
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**AGT(34-41) binds to AGTR1**

**Location:** Peptide ligand-binding receptors  
**Stable identifier:** R-HSA-374173  
**Type:** binding  
**Compartments:** plasma membrane, extracellular region

The cardiovascular and other actions of the vasoconstricting peptide angiotensin II are mediated by the type 1 and type 2 angiotensin II receptors (AT1 and AT2), which are seven transmembrane glycoproteins with 30% sequence similarity. AT1 receptors (Bergsma DJ et al, 1992) couple to G(q/11), and signal through phospholipases A, C, D, inositol phosphates, calcium channels, and a variety of serine/threonine and tyrosine kinases. The AT2 receptor (Tsuzuki S et al, 1994) is expressed mainly during fetal development. It is much less abundant in adult tissues and is up-regulated in pathological conditions. Its signaling pathways include serine and tyrosine phosphatases, phospholipase A2, nitric oxide, and cyclic guanosine monophosphate. The AT2 receptor counteracts several of the growth responses initiated by the AT1 and growth factor receptors.

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AGT(34-41) binds to AGTR2

Location: Peptide ligand-binding receptors

Stable identifier: R-HSA-9615348

Type: binding

Compartments: plasma membrane, extracellular region

The cardiovascular and other actions of the vasoconstricting peptide angiotensin II are mediated by the type 1 and type 2 angiotensin II receptors (AT1 and AT2), which are seven transmembrane glycoproteins with 30% sequence similarity. AT1 receptors (Bergsma DJ et al, 1992) couple to G(q/11), and signal through phospholipases A, C, D, inositol phosphates, calcium channels, and a variety of serine/threonine and tyrosine kinases. The AT2 receptor (Tsuzuki S et al, 1994) is expressed mainly during fetal development. It is much less abundant in adult tissues and is up-regulated in pathological conditions. Its signaling pathways include serine and tyrosine phosphatases, phospholipase A2, nitric oxide, and cyclic guanosine monophosphate. The AT2 receptor counteracts several of the growth responses initiated by the AT1 and growth factor receptors.

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ARBs bind AGRT1

Location: Peptide ligand-binding receptors

Stable identifier: R-HSA-9615249

Type: binding

Compartments: plasma membrane, extracellular region