Relaxin family peptide receptors (version 2019.4) in the IUPHAR/BPS Guide to Pharmacology Database

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Abstract

Relaxin family peptide receptors (RXFP, nomenclature as agreed by the NC-IUPHAR Subcommittee on Relaxin family peptide receptors [18, 75]) may be divided into two pairs, RXFP1/2 and RXFP3/4. Endogenous agonists at these receptors are heterodimeric peptide hormones structurally related to insulin: relaxin-1, relaxin, relaxin-3 (also known as INSL7), insulin-like peptide 3 (INSL3) and INSL5. Species homologues of relaxin have distinct pharmacology and relaxin interacts with RXFP1, RXFP2 and RXFP3, whereas mouse and rat relaxin selectively bind to and activate RXFP1 [172]. relaxin-3 is the ligand for RXFP3 but it also binds to RXFP1 and RXFP4 and has differential affinity for RXFP2 between species [170]. INSL5 is the ligand for RXFP4 but is a weak antagonist of RXFP3. relaxin and INSL3 have multiple complex binding interactions with RXFP1 [176] and RXFP2 [84] which direct the N-terminal LDLa modules of the receptors together with a linker domain to act as a tethered ligand to direct receptor signaling [173]. INSL5 and relaxin-3 interact with their receptors using distinct residues in their B-chains for binding, and activation, respectively [211, 97].

Contents

This is a citation summary for Relaxin family peptide receptors in the Guide to Pharmacology database (GtoPdb). It exists purely as an adjunct to the database to facilitate the recognition of citations to and from the database by citation analyzers. Readers will almost certainly want to visit the relevant sections of the database which are given here under database links.

GtoPdb is an expert-driven guide to pharmacological targets and the substances that act on them. GtoPdb is a reference work which is most usefully represented as an on-line database. As in any publication this work should be appropriately cited, and the papers it cites should also be recognized. This document provides a citation for the relevant parts of the database, and also provides a reference list for the research cited by those parts.

Please note that the database version for the citations given in GtoPdb are to the most recent preceding version in which the family or its subfamilies and targets were substantially changed. The links below are to the current version. If you need to consult the cited version, rather than the most recent version, please contact the GtoPdb curators.

Database links
Relaxin family peptide receptors
http://www.guidetopharmacology.org/GRAC/FamilyDisplayForward?familyId=60

Introduction to Relaxin family peptide receptors
http://www.guidetopharmacology.org/GRAC/FamilyIntroductionForward?familyId=60

Receptors
RXFP1
http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=351
RXFP2
http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=352
RXFP3
http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=353
RXFP4
http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=354

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174. Scott DJ, Tregear GW and Bathgate RA. (2005) LGR7-truncate is a splice variant of the relaxin receptor LGR7 and is a relaxin antagonist in vitro. *Ann. N. Y. Acad. Sci.* **1041**: 22-6 [PMID:15956683]


