

GNDF Family Receptor (GFR) in GtoPdb v.2025.3

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Abstract

GNDF family receptors (GFR) are extrinsic co-receptors, where ligand binding to the extracellular domain of the glycosylphosphatidylinositol-linked cell-surface GFRs activates a transmembrane tyrosine kinase enzyme, [RET](#). The endogenous ligands are typically dimeric, linked through disulphide bridges: glial cell-derived neurotrophic factor [GDNF](#) (211 aa); [neurturin](#) (197 aa); [artemin](#) (237 aa) and [persephin](#) (156 aa), referred to as GDNF family ligands (GFLs). There is evidence for RET-dependent and RET-independent signalling [5]. Growth/Differentiation Factor 15 (GDF15) has been shown to activate GFRAL, a transmembrane protein that similarly forms a complex with RET [8, 10].

Contents

This is a citation summary for GDNF Family Receptor (GFR) 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. For further details see [3].

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

GNDF Family Receptor (GFR)

<https://www.guidetopharmacology.org/GRAC/FamilyDisplayForward?familyId=314>

Receptors

[GFR \$\alpha\$ 1\(GDNF family receptor \$\alpha\$ 1\)](#)

<https://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1743>

[GFR \$\alpha\$ 2\(GDNF family receptor \$\alpha\$ 2\)](#)

<https://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1744>

[GFR \$\alpha\$ 3\(GDNF family receptor \$\alpha\$ 3\)](#)

<https://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1745>

[GFR \$\alpha\$ 4\(GDNF family receptor \$\alpha\$ 4\)](#)

<https://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1746>

[GDNF family receptor alpha like](#)

<https://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=2977>

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