Regulators of G protein Signaling (RGS) proteins (version 2019.4) in the IUPHAR/BPS Guide to Pharmacology Database

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Abstract

Regulators of G protein signalling (RGS) proteins display a common RGS domain that interacts with the GTP-bound Gα subunits of heterotrimeric G proteins, enhancing GTP hydrolysis by stabilising the transition state [29, 419, 418], leading to a termination of GPCR signalling. Interactions through protein:protein interactions of many RGS proteins have been identified for targets other than heteromeric G proteins. Sequence analysis of the 20 RGS proteins suggests four families of RGS: RZ, R4, R7 and R12 families. Many of these proteins have been identified to have effects other than through targeting G proteins. Included here is RGS4 for which a number of pharmacological inhibitors have been described.

Contents

This is a citation summary for Regulators of G protein Signaling (RGS) proteins 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

Regulators of G protein Signaling (RGS) proteins
http://www.guidetopharmacology.org/GRAC/FamilyDisplayForward?familyId=891

RZ family
http://www.guidetopharmacology.org/GRAC/FamilyDisplayForward?familyId=892

Targets
- RGS17(regulator of G-protein signaling 17)
  http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=2801
- RGS19(regulator of G-protein signaling 19)
  http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=2802
- RGS20(regulator of G-protein signaling 20)
  http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=2803

R4 family
http://www.guidetopharmacology.org/GRAC/FamilyDisplayForward?familyId=893

Targets
- RGS1(regulator of G-protein signaling 1)
  http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=2804
- RGS2(regulator of G-protein signaling 2)
  http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=2808
- RGS3(regulator of G-protein signaling 3)
  http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=2810
- RGS4(regulator of G-protein signaling 4)
  http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=2811
- RGS5(regulator of G-protein signaling 5)
  http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=2812
- RGS8(regulator of G-protein signaling 8)
  http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=2813
- RGS13(regulator of G-protein signaling 13)
  http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=2805
- RGS16(regulator of G-protein signaling 16)
  http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=2806
- RGS18(regulator of G-protein signaling 18)
  http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=2807
- RGS21(regulator of G-protein signaling 21)
  http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=2809

R7 family
http://www.guidetopharmacology.org/GRAC/FamilyDisplayForward?familyId=894

Targets
- RGS6(regulator of G-protein signaling 6)
  http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=2815
- RGS7(regulator of G-protein signaling 7)
  http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=2816
- RGS9(regulator of G-protein signaling 9)
  http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=2817
- RGS11(regulator of G-protein signaling 11)
  http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=2814

R12 family
http://www.guidetopharmacology.org/GRAC/FamilyDisplayForward?familyId=895

Targets

- RGS10 (regulator of G-protein signaling 10)
  - http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=2818
- RGS12 (regulator of G-protein signaling 12)
  - http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=2819
- RGS14 (regulator of G-protein signaling 14)
  - http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=2820

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