5-Hydroxytryptamine receptors in GtoPdb v.2023.1


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Abstract

5-HT receptors (nomenclature as agreed by the NC-IUPHAR Subcommittee on 5-HT receptors [198] and subsequently revised [180]) are, with the exception of the ionotropic 5-HT3 class, GPCRs where the
endogenous agonist is 5-hydroxytryptamine. The diversity of metabotropic 5-HT receptors is increased by alternative splicing that produces isoforms of the 5-HT_{2A} (non-functional), 5-HT_{2C} (non-functional), 5-HT_{4}, 5-HT_{6} (non-functional) and 5-HT_{7} receptors. Unique amongst the GPCRs, RNA editing produces 5-HT_{2C} receptor isoforms that differ in function, such as efficiency and specificity of coupling to G_{q/11} and also pharmacology [40, 491]. Most 5-HT receptors (except 5-HT_{1E} and 5-HT_{3B}) play specific roles mediating functional responses in different tissues (reviewed by [471, 387]).

Contents

This is a citation summary for 5-Hydroxytryptamine 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. For further details see [80].

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

5-Hydroxytryptamine receptors
https://www.guidetopharmacology.org/GRAC/FamilyDisplayForward?familyId=1
Introduction to 5-Hydroxytryptamine receptors
https://www.guidetopharmacology.org/GRAC/FamilyIntroductionForward?familyId=1
Receptors
5-HT_{1A} receptor
https://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1
5-HT_{1B} receptor
https://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=2
5-HT_{1D} receptor
https://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=3
5-HT_{1E} receptor
https://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=4
5-HT_{1F} receptor
https://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=5
5-HT_{2A} receptor
https://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=6
5-HT_{2B} receptor
https://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=7
5-HT_{2C} receptor
https://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=8
5-HT_{4} receptor
https://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=9
5-HT_{5A} receptor
https://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=10
5-HT_{5B} receptor
https://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=648
References


18. Bach T, Syversveen T, Kvingedal AM, Krobert KA, Brattelid T, Kaumann AJ and Levy FO. (2001) 5HT4(a) and 5-HT4(b) receptors have nearly identical pharmacology and are both expressed in human atrium and ventricle. *Naunyn Schmiedebergs Arch Pharmacol* **363**: 146-60 [PMID:11218067]


53. Bonhaus DW, Flippin LA, Greenhouse RJ, Jaime S, Rocha C, Dawson M, Van Natta K, Chang LK, Pulido-


agonist, improves the antipsychotic efficacy and side-effect profile of haloperidol and risperidone in experimental models. *J Pharmocol Exp Ther* **322**: 862-70 [PMID:17519387]


receptor. *Neuropharmacology* **44**: 1031-7 [PMID:12763096]


208. Johnson MP, Loncharich R J, Baez M and Nelson DL. (1994) Species variations in transmembrane region...


systemically or microinjected into the laterodorsal tegmental nucleus on REM sleep in the rat. Behav Brain Res 151: 159-66 [PMID:15084431]


nuclei. In vivo voltammetry and in vitro superfusion studies. *Neuropsychopharmacology* **13**: 249-60 [PMID:8602897]


mediation by 5-HT1D receptors? Psychopharmacology (Berl.) 145: 223-6 [PMID:10463324]


