IUPHAR/BPS Guide to Pharmacology CITE
https://doi.org/10.2218/gtopdb/F248/2019.4

Adenosine turnover (version 2019.4) in the IUPHAR/BPS Guide to Pharmacology Database

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Abstract

A multifunctional, ubiquitous molecule, adenosine acts at cell-surface G protein-coupled receptors, as well as numerous enzymes, including protein kinases and adenylyl cyclase. Extracellular adenosine is thought to be produced either by export or by metabolism, predominantly through ecto-5'-nucleotidase activity (also producing inorganic phosphate). It is inactivated either by extracellular metabolism *via* adenosine deaminase (also producing ammonia) or, following uptake by nucleoside transporters, *via* adenosine deaminase or adenosine kinase (requiring ATP as co-substrate). Intracellular adenosine may be produced by cytosolic 5'-nucleotidases or through S-adenosylhomocysteine hydrolase (also producing L-homocysteine).

Contents

This is a citation summary for Adenosine turnover 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

Adenosine turnover
http://www.guidetopharmacology.org/GRAC/FamilyDisplayForward?familyId=248

- Enzymes
  - ADA(Adenosine deaminase)
    http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1230
  - ADK(Adenosine kinase)

http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1231

NT5E(Ecto-5'-Nucleotidase)

http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1232

SAHH(S-Adenosylhomocysteine hydrolase)

http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1233

5'-nucleotidase IA

http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1234

5'-nucleotidase IB

http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1235

5'-nucleotidase II

http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1236

5'-nucleotidase III

http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1237

5'(3')-nucleotidase

http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1238

Mitochondrial 5'-nucleotidase

http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1239

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