

Recombinant Rat 5HT2A Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP52279

Size: 10ug, 100ug

Protein Name: 5-hydroxytryptamine receptor 2A (5-HT-2) (5-HT-2A) (Serotonin receptor 2A)

Synonym: Htr2a, Htr2

UniProt ID: P14842

UniProt Link: www.uniprot.org/uniprotkb/P14842/entry

Species Source: Rat

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 471 AA

Molecular Weight: 53 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MEILCEDNISLSSIPNSLMQLGDGPRLYHNDFNSRDANTSEASNWTIDAENRTNLSCEGYLPPTCLSI
LHLQEKNWSALLTTVVIIITAGNILVIMAVSLEKKLQNPATNYFLMSLAIDMLLGFLVMPVSMILTILYGY
RWPLPSKLCAIWIYLDVLFSTASIMHLCAISLDRYVAIQNPPIHHSRFSNRTKAFLKIIAVWTISVGISMPIP
VFGLQDDSKVFKEGSCLLADDNFVLIGSFVAFFIPLTIMVITYFLTIKSLQKEATLCVSDLSTRAKLASFS
FLPQSSLSSEKLFQRSIHREPGSYAGRRTMQSISNEQKACKVLGIVFFLVVMWCPFFITNIMAVICKE
SCNENVIGALLNVFVWIGYLSSAVNPLVYTLFNKTYRSAFSRYIQCQYKENRKPLQLILVNTIPALAYK
SSQLQVGQKKNSQEDAEQTVDDCSMVTLGKQQSEENCTDNIETVNEKVSCV

3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

5. Product Description

This product is recombinant 5-hydroxytryptamine receptor 2A (5-HT-2) (5-HT-2A) (Serotonin receptor 2A) produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

Protein Function: G protein-coupled receptor for 5-hydroxytryptamine (serotonin) (PubMed:2300586, PubMed:2854054). Also functions as a receptor for various drugs and psychoactive substances, including mescaline, psilocybin, 1-(2,5-dimethoxy-4-iodophenyl)-2-aminopropane (DOI) and lysergic acid diethylamide (LSD) (By similarity). Ligand binding causes a conformation change that triggers signaling via guanine nucleotide-binding proteins (G proteins) and modulates the activity of downstream effectors (By similarity). HTR2A is coupled to G(q)/G(11) G alpha proteins and activates phospholipase C-beta, releasing diacylglycerol (DAG) and inositol 1,4,5-trisphosphate (IP3) second messengers that modulate the activity of phosphatidylinositol 3-kinase and promote the release of Ca(2+) ions from intracellular stores, respectively (By similarity). Beta-arrestin family members inhibit signaling via G proteins and mediate activation of alternative signaling pathways (By similarity). Affects neural activity, perception, cognition and mood (By similarity). Plays a role in the regulation of behavior, including responses to anxiogenic situations and psychoactive substances (By similarity). Plays a role in intestinal smooth muscle contraction, and may play a role in arterial vasoconstriction (By similarity).

Subcellular Localization: Cell membrane ; Multi-pass membrane protein . Cell projection, axon . Cytoplasmic vesicle . Membrane, caveola . Cell projection, dendrite . Presynapse .

6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.