

MULTISCREEN™ STABLE CELL LINE HUMAN RECOMBINANT GPR61 RECEPTOR

PRODUCT INFORMATION

Catalog Number: C1117b

Lot Number: C1117b-013125

Quantity: 1 vial (2 x 10⁶) frozen cells

Freeze Medium: Cellbanker 2

Host cell: HEK293T

Transfection: Full-length human GPR61 cDNA (GenBank Accession Number NM_031936.3) with FLAG tag sequence at N-terminus

Recommended Storage: Liquid nitrogen upon receiving

Propagation Medium: DMEM, 10% FBS, 1 µg/mL puromycin

Stability: Stable for a minimum of 2 months in continuous culture

Data sheet

Background: G-protein-coupled receptor 61 (GPR61) is a receptor for a tertiary sulfonamide. It is expressed in the hypothalamus and brainstem. While not fully understood, studies suggest that GPR61 could be linked to conditions such as type 2 diabetes. Because of this, GPR61 is a possible target for appetite modulation. In concert with several other GPCRs, GPR61 is also responsible for plasmalogen mediation, which is necessary for neuronal cell survival. Additionally, GPR61 co-colonizes with Gonadotropin-releasing hormone receptors on gonadotrophs, which play a vital role in reproductive function.

Application: Functional assays

Figure 1

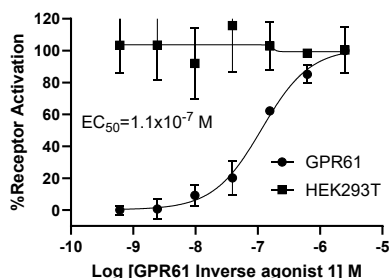
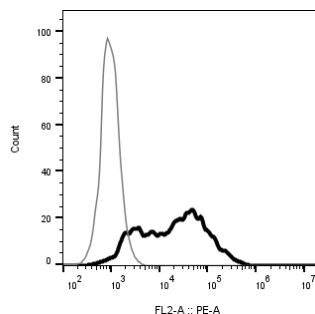


Figure 1. Dose-dependent increase of intracellular cAMP accumulation upon treatment with ligand, measured with MULTISCREEN™ TR-FRET cAMP 1.0 No Wash Assay Kit (Multispan MSCM01).

Figure 2. Receptor expression on cell surface measured by flow cytometry (FACS) using an anti-FLAG antibody. Thin line: parental cells; thick line: receptor-expressing cells.

Figure 2



References:

Lees, *et al.* (2023) An inverse agonist of orphan receptor GPR61 acts by a G protein competitive allosteric mechanism. *Nat. Commun* 14:5938.

Hossian, *et al.* (2016) Neuronal Orphan G-Protein Coupled Receptor Proteins Mediate Plasmalogens-Induced Activation of ERK and Akt Signaling. *PLOS ONE* DOI:10.1371/journal.pone.0150846.

Kadokawa, *et al.* (2022) Chemosynthetic ethanolamine plasmalogen stimulates gonadotropin secretion from bovine gonadotrophs by acting as a potential GPR61 agonist. *Anim. Reprod. Sci.* 241:106992.

Kozielewicz, *et al.* (2019) Overexpression of Orphan Receptor GPR61 Increases cAMP Levels upon Forskolin Stimulation in HEK293 Cells: in vitro and in silico Validation of 5-(Nonyloxy) Tryptamine as a Low-Affinity Inverse Agonist. *Pharmacology* 104:377–382.

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