MULTISCREEN™ STABLE CELL LINE
HUMAN RECOMBINANT GPR52 RECEPTOR

PRODUCT INFORMATION

Catalog Number: C1112a

Lot Number: C1112a-041221

Quantity: 1 vial (2 x 10^6) frozen cells

Freeze Medium: Cellbanker 2 (Amsbio)

Host cell: HEK293T

Transfection: Expression vector containing full-length human GPR52 cDNA (GenBank accession number NM_005684) with FLAG tag sequence at N-terminus

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

Recommended Storage: Liquid nitrogen upon receiving

Stability: In progress

Data sheet

Background: GPR52 is a class-A orphan G-protein-coupled receptor that can be found in human and mice, and is highly expressed in the brain and represents a promising therapeutic target for the treatment of Huntington's disease and several psychiatric disorders. Once activated by antipsychotics reserpine, an increase of intracellular cAMP and its internalization is resulted. Members of this protein family contain transmembrane domain and may play a role in locomotor activity through modulation of dopamine, NMDA and ADORA2A-induced locomotor activity. They represent a promising therapeutic target for the treatment of Huntington's disease and several psychiatric disorders.

Application: Functional assay

Figure 1

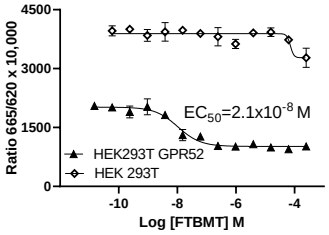

Figure 2

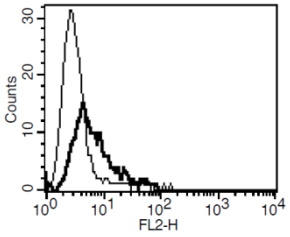

Figure 1. Dose-dependent stimulation of intracellular cAMP level upon treatment with ligand, measured with MultiScreen™ TR-FRET cAMP 1.0 No Wash Assay Kit (Multispan MSCM01)
Figure 2. Receptor expression on cell surface measured by flow cytometry (FACS) using an anti-FLAG antibody. Thin line: parental cells; thick line: receptor-expressing cells.

References:

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Komatsu, H. *et al*. (2014). Anatomical transcriptome of G protein-coupled receptors leads to the identification of a novel therapeutic candidate GPR52 for psychiatric disorders. *PloS one*, *9*(2), e9013

Nishiyama, K. *et al*. (2017). FTBMT, a Novel and Selective GPR52 Agonist, Demonstrates Antipsychotic-Like and Procognitive Effects in Rodents, Revealing a Potential Therapeutic Agent for Schizophrenia. *The Journal of pharmacology and experimental therapeutics*, *363*(2), 253–264.

Southern, Craig *et al*. "Screening β-arrestin recruitment for the identification of natural ligands for orphan G-protein-coupled receptors." *Journal of biomolecular screening* vol. 18,5 (2013): 599-609

Hatzipantelis, Cassandra J *et al*. "β-Arrestin-2-Dependent Mechanism of GPR52 Signaling in Frontal Cortical Neurons." *ACS chemical neuroscience* vol. 11,14 (2020): 2077-2084.

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