MULTISCREEN™ STABLE CELL LINE
HUMAN RECOMBINANT HETERODIMER GHSR DRD2 RECEPTOR

Data sheet

PRODUCT INFORMATION

Catalog Number: C1514

Lot Number: C1514-081417

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

Freeze Medium: Cell Banker

Host cell: HEK293T

Transfection: Expression vector containing full-length human DRD2 cDNA (GenBank Accession Number NM_000795.3) with FLAG tag sequence at N-terminus and GHSR cDNA (GenBank Accession Number NM_198407.1) with MYC tag sequence at N-terminus

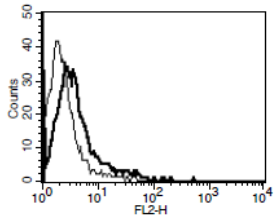
Recommended Storage: Liquid nitrogen upon receiving

Propagation Medium: DMEM, 10% FBS, 1 µg/mL puromycin, 250ug/ml hygromycin

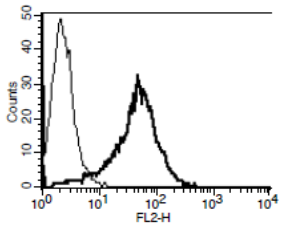
Stability: In progress

Figure 3

a.



b.



Background: The concept of dimerization of G protein-coupled receptor (GPCR) has opened a new insight regarding physiological function regulation. One of the example is heterodimerization of Ghrelin(GHSR) and dopamine(DRD2) receptor. Recent experiments have showed that GHSR:DRD2 heterodimers allosterically modifies canonical DRD2 dopamine signaling resulting in Gβγ subunit-dependent mobilization of Ca2+ independent of GHSR basal activity. Independently, agonist activation of GHSR results in coupling to Gαq and DRD2 transmits dopamine signal through Gαi/o coupling by inhibiting activity of adenylate cyclase and decreasing cAMP level in dose dependent manner.

Application: Functional assays

Figure 1

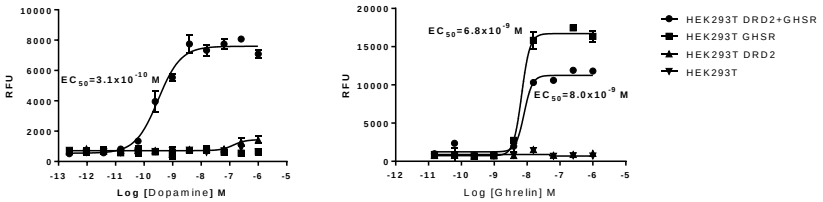


Figure 2

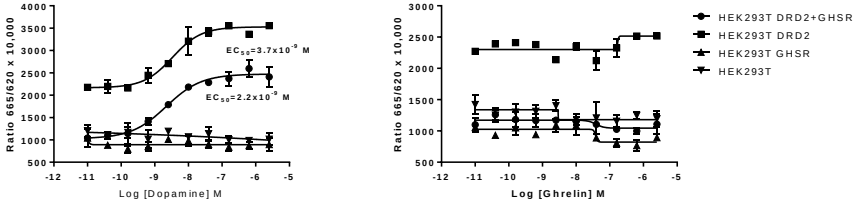


Figure 1. Dose-dependent stimulation of calcium flux upon treatment with ligand, measured with Multiscreen™ Calcium 1.0 No Wash Assay Kit (Multispan MSCA01). **Figure 2.** Dose-dependent inhibition of forskolin-stimulated intracellular cAMP accumulation upon treatment with ligand, measured with Multiscreen™ TR-FRET cAMP 1.0 No Wash Assay Kit (Multispan MSCM01). **Figure 3.** Receptor expression on cell surface measured by flow cytometry (FACS) using: **a**. Anti-FLAG antibody, **b.** Anti-MYC antibody. Thin line: parental cells; thick line: receptor-expressing cells.

References:

van der Lely et al. (2004) Biological, physiological, pathophysiological, and pharmacological aspects of ghrelin. Endocr Rev 25:426-457.

Kern et al. (2013) Apo-ghrelin receptor forms heteromers with DRD2 in hypothalamic neurons and is essential for anorexigenic effects of DRD2 agonism. Neuron. 73(2): 317–332.

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