

MULTISCREEN™ STABLE CELL LINE HUMAN RECOMBINANT GPR50 RECEPTOR

Data sheet

PRODUCT INFORMATION

Catalog Number: C1110

Lot Number: C1110-021213

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

Freeze Medium: Sigma Freezing Medium (C-6164)

Host cell: HEK293T

Transfection: Expression vector containing full-length human GPR50 cDNA (GenBank Accession Number NM_004224) with FLAG tag sequence at N-terminus

Recommended Storage: Liquid nitrogen upon receiving

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

Stability: In progress

Background: GPR50 is a melatonin-related receptor. It does not bind melatonin and its endogenous ligand is still unknown. Nevertheless, this receptor has been shown to behave as an antagonist of melatonin receptor type 1 (MT1), which opens new pharmacological perspectives for GPR50. GPR50 was reported to inhibit MT1 melatonin receptor function through heterodimerization by abolishing high-affinity agonist binding and G protein coupling to the MT1. Data acquired from the mice lacking GPR50 implicate the receptor as an important regulator of energy metabolism. Recently GPR50 has been identified as an interacting partner of neurite outgrowth inhibitor NOGO-A to regulate neurite growth.

Application: Functional assays

Figure 1

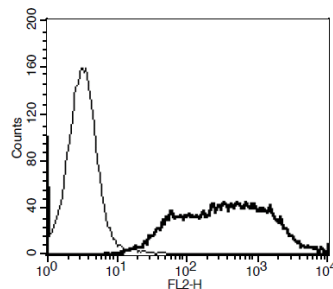


Figure 1. Receptor expression on cell surface measured by flow cytometry (FACS) using an anti-FLAG antibody. Thin line: parental cells; thick line: receptor-expressing cells.

References:

Grünewald E, Kinnell HL, Porteous DJ, Thomson PA (2009) GPR50 interacts with neuronal NOGO-A and affects neurite outgrowth. *Mol Cell Neurosci* 42:363-371.

Ivanova EA, Bechtold DA, Dupré SM, Brennand J, Barrett P, Luckman SM, Loudon AS (2008) Altered metabolism in the melatonin-related receptor (GPR50) knockout mouse. *Am J Physiol Endocrinol Metab* 294:E176-182.

Levoe A, Dam J, Ayoub MA, Guillaume JL, Couturier C, Delagrangé P, Jockers R (2006) The orphan GPR50 receptor specifically inhibits MT1 melatonin receptor function through heterodimerization. *EMBO J* 25:3012-3023.

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