

MULTISCREEN™ STABLE CELL LINE
HUMAN RECOMBINANT δ OPIOID RECEPTOR

PRODUCT INFORMATION

Catalog Number: C1351-1

Lot Number: C1351-1-061109

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

Freeze Medium: Sigma Freezing Medium (C-6164)

Host cell: CHO-K1

Transfection: Expression vector containing full-length human OPRD1 cDNA (GenBank Accession Number NM_000911.3) with FLAG tag sequence at N-terminus

Recommended Storage: Liquid nitrogen upon receiving

Propagation Medium: DMEM/F12, 10% FBS, 10 μ g/mL puromycin

Stability: Stable after minimum two months continuous growth.

Data sheet

Background: δ opioid receptor (DOR) inhibits neurotransmitter release by reducing Ca^{++} currents and increasing K^+ conductance. In rats, morphine tolerance is associated with DOR-mediated activation of cortical CCKergic systems. There are indications that some DOR antagonists produce potent antitussive effects and may be considered as candidates of antitussive drugs. In contrast, some DOR agonists have shown antinociceptive, seizuregenic and convulsive properties, implicating a role for the DOR in depression. Early clinical experiments have demonstrated that exogenously administered opioid peptides had antidepressant activity in human patients, suggesting that the receptor may provide a new therapeutic target for treating depression.

Application: Functional assays

Figure 1

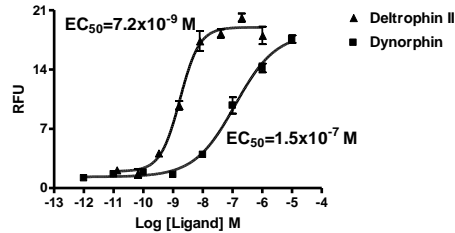


Figure 2

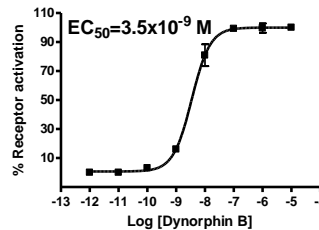


Figure 1. Dose-dependent stimulation of calcium flux upon treatment with ligand, measured with Multiscreen™ Calcium 1.0 No Wash Assay Kit (Multispan MSCA01).

Figure 2. Dose-dependent inhibition of forskolin-stimulated intracellular cAMP level 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 an anti-FLAG antibody. Thin line: parental cells; thick line: receptor-expressing cells.

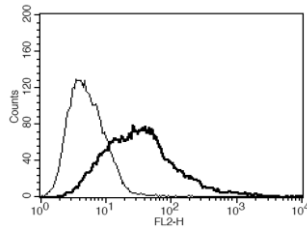
References:

Becker *et al.* (2000) Delta-opioid receptor-mediated increase in cortical extracellular levels of cholecystokinin-like material by subchronic morphine in rats. *Neuropharmacology* 39:161-171.

Kamei (2002) Delta-opioid receptor antagonists as a new concept for central acting antitussive drugs. *Pulm Pharmacol Ther* 15:235-240.

Broom *et al.* (2002) Behavioral effects of delta-opioid receptor agonists: potential antidepressants? *Jpn J Pharmacol* 90:1-6.

Figure 3



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