

MULTISCREEN™ STABLE CELL LINE HUMAN RECOMBINANT κ OPIOID RECEPTOR

Data sheet

PRODUCT INFORMATION

Catalog Number: CA1352-1a

Lot Number: CA1352-1a-100518

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

Freeze Medium: Cellbanker 2

Host cell: CHO-K1

Transfection: Expression vector containing full-length human OPRK1 cDNA (GenBank Accession Number NM_000912.3) with FLAG tag sequence at N-terminus and ARRB2 cDNA (GenBank Accession Number NM_004313.3)

Recommended Storage: Liquid nitrogen upon receiving

Propagation Medium: DMEM/F12, 10% FBS, 10 µg/mL puromycin, 800 µg/mL G418

Stability: Stable after minimum two months continuous growth

Background: κ Opioid Receptor (KOR) is a receptor for dynorphins. KOR inhibits neurotransmitter release by reducing calcium currents and increasing potassium conductance and may play a role in arousal and regulation of autonomic and neuroendocrine functions. Some studies suggest that stimulation of KOR improves memory dysfunctions resulting from the blockade of muscarinic M1 receptors. In addition, KOR agonists attenuate several behavioral responses induced by drugs of abuse, raising the possibility that KOR agonists may be useful for the treatment of dependence on drugs of abuse.

Application: Functional assays

Figure 1

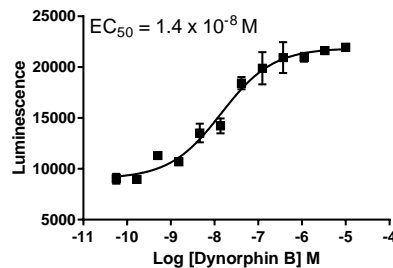


Figure 2

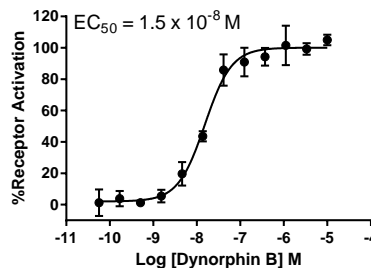


Figure 3

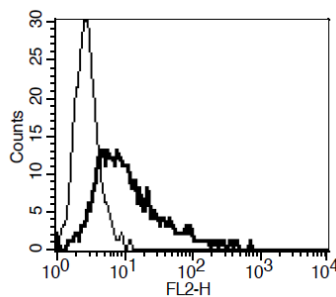


Figure 1. Dose-dependent stimulation from arrestin recruitment upon treatment with ligand, monitored on Flexstation III. **Figure 2.** Dose-dependent inhibition of forskolin-stimulated intracellular cAMP level upon treatment with ligand, measured with Multiscreen™ TR-FRET cAMP 1.0 No Wash Assay Kit (Multispan 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:

Ukai *et al.* (1995) Kappa-Opioid receptor agonists improve pirenzepine-induced disturbance of spontaneous alternation performance in the mouse. *Eur J Pharmacol* 281:173-178.

Hasebe *et al.* (2004) Possible pharmacotherapy of the opioid kappa receptor agonist for drug dependence. *Ann N Y Acad Sci* 1025:404-413.

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