

MULTISCREEN™ STABLE CELL LINE RAT RECOMBINANT KAPPA OPIOID RECEPTOR

PRODUCT INFORMATION

Catalog Number: Cr1352-8

Lot Number: Cr1352-8-111716

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

Freeze Medium: Sigma Freezing Medium (C-6164)

Host cell: CHO dhfr⁻

Transfection: Full-length rat Oprk1 cDNA (GenBank Accession Number L22001)

Recommended Storage: Liquid nitrogen upon receiving

Propagation Medium: Alpha-MEM, 10% FBS, 800 µg/mL G418

Stability: Stable after minimum of two months continuous growth

Data sheet

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

Application: Functional assays

Figure 1

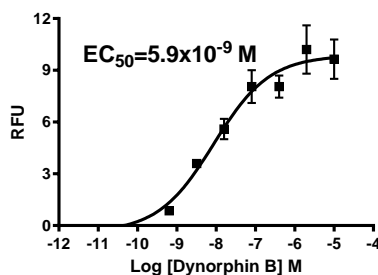


Figure 2

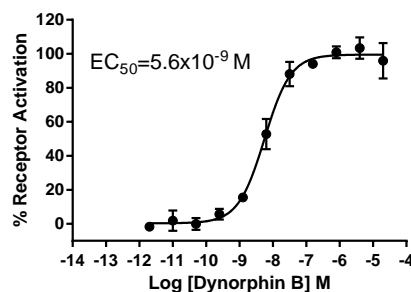


Figure 1. Dose-dependent stimulation of calcium flux upon treatment with ligand, measured with Multiscreen™ Calcium 1.0 No Wash Assay Kit (Multispan MSCA01). Cells were transiently transfected with Gαq5. **Figure 2.** Dose-dependent inhibition of forskolin-stimulated intracellular cAMP level upon treatment with ligand, measured with Multiscreen™ TR-FRET cAMP 1.0 No Wash Assay Kit (Multispan MSCM01).

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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