

MULTISCREEN™ STABLE CELL LINE RAT RECOMBINANT MU OPIOID RECEPTOR

PRODUCT INFORMATION

Catalog Number: Cr1350-1a

Lot Number: Cr1350-1a-051811

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

Freeze Medium: Sigma Freezing Medium (C-6164)

Host cell: CHO dhfr⁻

Transfection: Full-length rat Oprm1 opioid receptor cDNA (GenBank Accession Number L13069)

Recommended Storage: Liquid nitrogen upon receiving

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

Stability: In progress

Data Sheet

Background: Mu opioid receptor (MOR) is a receptor for beta-endorphin, inhibits neurotransmitter release by reducing calcium ion currents and increasing potassium ion conductance. MOR signaling and regulation are strongly agonist-dependent. MOR mediates positive reinforcement following direct (morphine) or indirect (alcohol, cannabinoids, nicotine) activation. MOR plays a genetic role in the control of gut inflammation. MOR-deficient mice are highly susceptible to colon inflammation, with a 50% mortality rate occurring 3 days after administration of TNBS that induces inflammation. MOR agonists regulate cytokine production and T cell proliferation and might be new therapeutic molecules in inflammatory bowel disease.

Application: Functional assays

Figure 1

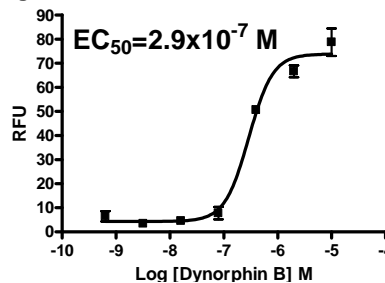


Figure 2

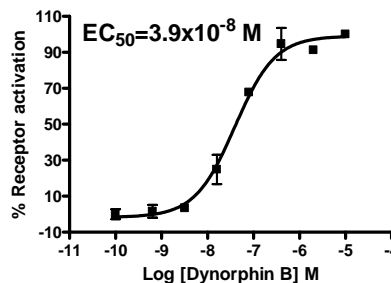


Figure 1. Dose-dependent stimulation of calcium flux upon treatment with ligand, monitored with FlexStation. Cells were transiently transfected with Gαq15. **Figure 2.** Dose-dependent inhibition of forskolin-stimulated intracellular cAMP level upon treatment with ligand, measured with cAMP HiRange kit (Cisbio 62AM6PEC).

References:

Chen *et al.* (1993) Molecular cloning and functional expression of a mu-opioid receptor from rat brain. *Mol Pharmacol* 44:8-12.

Contet *et al.* (2004) Mu opioid receptor: a gateway to drug addiction. *Curr Opin Neurobiol* 14:370-378.

Philippe *et al.* (2003) Anti-inflammatory properties of the mu opioid receptor support its use in the treatment of colon inflammation. *J Clin Invest* 111:1329-1338.

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