

**MULTISCREEN™ STABLE CELL LINE**  
**HUMAN RECOMBINANT μ OPIOID RECEPTOR**

**PRODUCT INFORMATION**

**Catalog Number:** C1350-1a

**Lot Number:** C1350-1a-060909

**Quantity:** 1 vial (2 x 10<sup>6</sup>) frozen cells

**Freeze Medium:** Sigma Freezing Medium (C-6164)

**Host cell:** CHO-K1

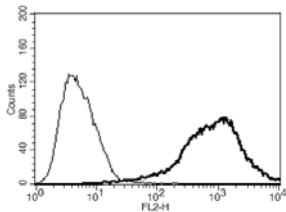
**Transfection:** Expression vector containing full-length human OPRM1 cDNA (GenBank accession number NM\_000914.2) with FLAG tag sequence at N-terminus

**Recommended Storage:** Liquid nitrogen upon receiving

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

**Stability:** Stable after minimum two months continuous growth

**Figure 3**

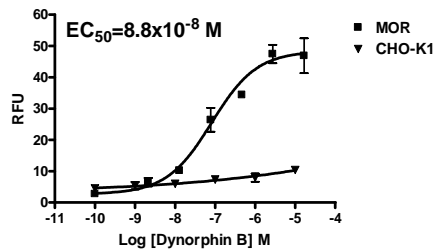


**Data Sheet**

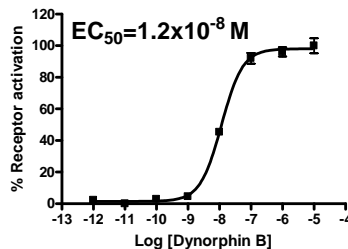
**Background:** μ opioid receptor (MOR) is a G protein-coupled receptor for β-endorphin. The receptor activation inhibits neurotransmitter release by reducing calcium currents and increasing potassium conductance. MOR mediates positive reinforcement following direct (morphine) or indirect (alcohol, cannabinoids, 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. **Figure 2.** Dose-dependent inhibition of forskolin-stimulated intracellular cAMP level upon treatment with ligand, measured with cAMP HiRange kit (Cisbio 62AM6PEC). **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:**

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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Ver. June 2005

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