MULTISPAN
One-Stop Shop for GPCR Research

MULTISCREEN^{TM} STABLE CELL LINE HUMAN RECOMBINANT M5 RECEPTOR

Data sheet

PRODUCT INFORMATION

Catalog Number: C1026-1

Lot Number: C1026-1-051209

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

Freeze Medium: Sigma Freezing Medium (C-6164)

Host cell: CHO-K1

Transfection: Expression vector containing full-length human CHRM5 cDNA (GenBank accession Number NM_012125) 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 in culture for minimum of two months

Background: The muscarinic M5 receptor is a 532-amino acid 7-transmembrane protein. Acetylcholine, a potent dilator of most vascular beds, virtually lost the ability to dilate cerebral arteries and arterioles in M5 -/- mice, suggesting that endothelial M5 receptors mediate this activity in wild-type mice. M5 receptors located on dopaminergic nerve terminals play a role in facilitating muscarinic agonist-induced dopamine release in the striatum. Both somatic and affective components of naloxone-induced morphine withdrawal symptoms were significantly attenuated in M5 -/- mice. M5 receptor activity modulates both morphine reward and withdrawal processes, suggesting that M5 receptors may represent a novel target for the treatment of opiate addiction.

Application: Functional assays

Figure 1

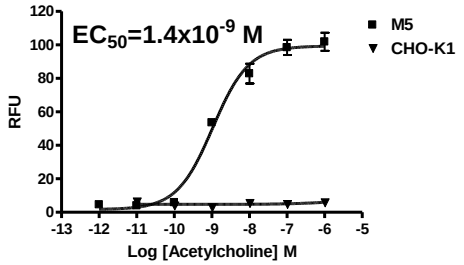

Figure 2

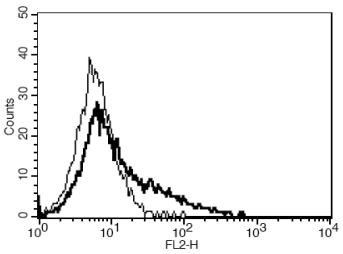

Figure 1. Dose-dependent stimulation of calcium flux upon treatment with ligand, monitored with FlexStation. **Figure 2.** Receptor expression on cell surface measured by flow cytometry (FACS) using an anti-FLAG antibody. Thin line: parental cells; thick line: receptor-expressing cells. Thin line: parental cells; thick line: receptor-expressing cells.

References:

Basile *et al.* (2002) Deletion of the M5 muscarinic acetylcholine receptor attenuates morphine reinforcement and withdrawal but not morphine analgesia. *Proc Natl Acad Sci USA* 99:11452-11457.

Yamada *et al.* (2003) Novel insights into M5 muscarinic acetylcholine receptor function by the use of gene targeting technology. *Life Sci* 74:345-353.

FOR RESEARCH USE ONLY.

www.multispaninc.com
sales@multispaninc.com
support@multispaninc.com

Phone: +1 (510) 887-0817
Fax: +1 (510) 887-0863
26219 Eden Landing Road
Hayward, CA 94545-3718
U.S.A.

Ver. October 2005