

MULTISCREEN™ STABLE CELL LINE HUMAN RECOMBINANT NK1 RECEPTOR

Data sheet

PRODUCT INFORMATION

Catalog Number: C1303

Lot Number: C1303-070111

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

Freeze Medium: Sigma Freezing Medium (C-6164)

Host cell: HEK293T

Transfection: Expression vector containing full-length human TACR1 cDNA (GenBank Accession Number NM_001058.2) with FLAG tag sequence at N-terminus

Recommended Storage: Liquid nitrogen upon receiving

Propagation Medium: DMEM, 10% FBS, 1 μ g/mL puromycin

Stability: Stable for minimum of two months in culture

Background: NK1 (or tachykinin receptor TACR1) is a selective receptor for substance P with relatively higher affinity for neurokinin A compared to neurokinin B (100- and 500-fold lower). Neurons in lamina I of the spinal dorsal horn express the NK1 receptor for substance P and mediate hyperalgesia, an enhanced sensitivity to painful stimuli. Although substance P does not mediate the signaling of acute pain or hyperalgesia, it is essential for the full development of stress-induced analgesia and for an aggressive response to territorial challenge. It is also suggested that substance P is important for orchestrating the response of the animal to major stressors such as pain, injury or invasion of territory. Modulation of substance P activity offers a radical new approach to the management of depression, anxiety and stress. The substance P receptor is highly expressed in areas of the brain that are implicated in these behaviors.

Application: Functional assays

Figure 1

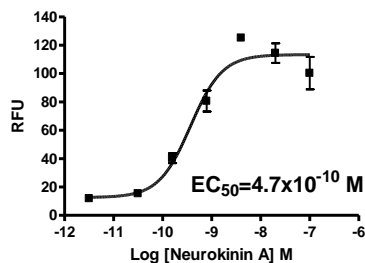


Figure 2

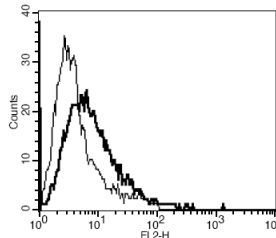


Figure 1. Dose-dependent stimulation of calcium flux upon treatment with ligand, measured with Multiscreen™ Calcium 1.0 No Wash Assay Kit (Multispan MSCA01).

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.

References:

Lecci *et al.* (2000) Peripheral actions of tachykinins. *Neuropeptides* 34:303-313.

Quartara and Maggi (1997) The tachykinin NK1 receptor. Part I: ligands and mechanisms of cellular activation. *Neuropeptides* 31:537-563.

Quartara and Maggi (1998) The tachykinin NK1 receptor. Part II: distribution and pathophysiological roles. *Neuropeptides* 32:1-49.

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