

MULTISCREEN™ STABLE CELL LINE HUMAN RECOMBINANT CRF1 RECEPTOR

Data sheet

PRODUCT INFORMATION

Catalog Number: CG1040

Lot Number: CG1040-123013

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

Freeze Medium: Sigma Freezing Medium (C-6164)

Host cell: HEK293T Gαq5

Transfection: Expression vector containing full-length human CRHR1 cDNA (GenBank Accession Number NM_004382.3) with FLAG tag sequence at N-terminus

Recommended Storage: Liquid nitrogen upon receiving

Propagation Medium: DMEM, 10% FBS, 1 μg/mL puromycin, 250 μg/mL hygromycin

Stability: Stable in culture for minimum of two months

Background: Hypothalamic corticotropin releasing hormone (CRH) exerts its diverse physiological actions via cell surface G protein-coupled CRH receptors (CRHRs), of which two subtypes (CRHR1 and CRHR2) have been identified. CRH regulates pituitary ACTH secretion and mediates behavioral and autonomic responses to stress. Overproduction of CRH and stress system abnormalities are associated with psychiatric diseases such as depression, anxiety, eating disorders, and addiction. CRHR1 is expressed in pituitary corticotrophs and the brain. CRH binds to CRHR1 with high affinity, and activation of CRHR1 by CRH increases cAMP intracellular levels and activates protein kinase A. CRHR1 also couples to activation of MAPK as well as protein kinase C in an isoenzyme-specific manner. Selective CRHR1 antagonists offer new possibilities for the treatment of anxiety and depression.

Application: Functional assays

Figure 1

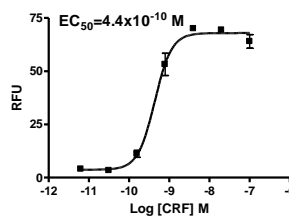


Figure 2

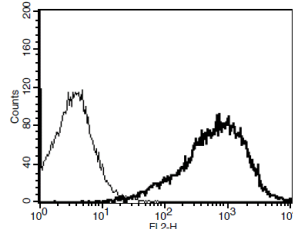


Figure 1. Dose-dependent stimulation of calcium flux upon treatment with ligand, measured with Multiscreen™ Calcium 1.0 No Wash Assay Kit (Multispan MSCA01).

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:

Dermitzaki *et al.* (2005) Corticotropin-releasing hormone activates protein kinase C in an isoenzyme-specific manner. *Biochem Biophys Res Commun* 327:828-836.

Muller and Wurst (2004) Getting closer to affective disorders: the role of CRH receptor systems. *Trends Mol Med* 10:409-415.

Refojo *et al.* (2005) Corticotropin-releasing hormone activates ERK1/2 MAPK in specific brain areas. *Proc Natl Acad Sci U S A* 102:6183-6188.

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