MULTISCREEN™ STABLE CELL LINE
HUMAN RECOMBINANT EP3 RECEPTOR

PRODUCT INFORMATION

Catalog Number: C1203-1

Lot Number: C1203-1-081108

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 EP3 cDNA (GenBank Accession Number NM_000957) 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

Data sheet

Background: Prostaglandin E2 (PGE2) is involved in a number of physiologic and pathophysiologic events in many tissues of the body. The biologic effects of PGE2 are mediated through interaction with specific membrane-bound G protein-coupled prostanoid EP receptors. EP3 receptor (or PTGER3) is expressed as multiple transcripts through alternative splicing, with each transcript showing a different tissue-specific distribution. PGE2 may mediate fever generation in response to both endogenous and exogenous pyrogens by acting at the EP3 receptor. EP3-mediated neuronal pathways converge at corticotropin-releasing hormone containing neurons in the paraventricular nucleus of the hypothalamus to induce HPA axis activation during sickness.

At cellular level, EP3 has been shown to couple to both Gs and Gi/o types of the heterotrimeric G proteins to stimulate or inhibit intracellular cAMP synthesis. This cell line is responsive to pertussis toxin (PTX) treatment, indicating its coupling to both types of G proteins (See Figure).

Application: Functional assays

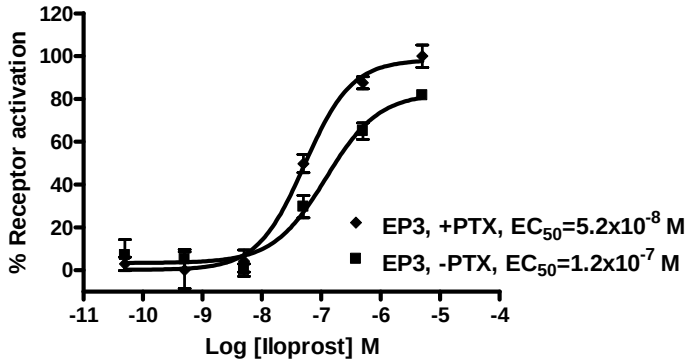

Figure legend: Dose-dependent stimulation of intracellular cAMP accumulation upon treatment with ligand.

References:

Adam *et al.* (1994) Cloning and expression of three isoforms of the human EP(3) prostanoid receptor. *FEBS Lett* 338:170-174.

Matsuoka *et al.* (2003) Impaired adrenocorticotropic hormone response to bacterial endotoxin in mice deficient in prostaglandin E receptor EP1 and EP3 subtypes. *Proc Nat Acad Sci USA* 100:4132-4137.

Ushikubi *et al.* (1998) Impaired febrile response in mice lacking the prostaglandin E receptor subtype EP(3). *Nature* 395:281-284.

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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.

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