

MULTISCREEN™ STABLE CELL LINE RAT RECOMBINANT P2Y₁₄ RECEPTOR

Data sheet

PRODUCT INFORMATION

Catalog Number: CGr1057

Lot Number: CGr1057-112213

Quantity: 1 vial (2 x 10⁶) frozen cells

Freeze Medium: Sigma Freezing Medium (C-6164)

Host cell: HEK293T Gaq15

Transfection: Expression vector containing full-length rat P2y14 cDNA (GenBank Accession Number NM_133577) 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 a minimum of 2 months

Background: P2Y₁₄ (GPR105) is a purinergic G protein-coupled receptor that specifically responds to UDP-glucose and related sugar-nucleotides. This receptor has important structural similarities to known members of the P2Y receptor family but also shows a distinctly different pharmacological profile, as the receptor does not respond to ATP, ADP, UTP, UDP, other nucleotides, dinucleotides, and nucleosides. Widespread distribution of P2Y₁₄ has been observed in humans, with highest expression in placenta, adipose tissue, stomach and intestine, and moderate levels in the brain, spleen, lung and heart. In transfected cells, the P2Y₁₄ receptor reportedly couples to pertussis toxin-sensitive G_{α_{i/o}} proteins. However, the transduction pathway(s) used by this receptor in native systems still remains to be defined.

Application: Functional assays

Figure 1

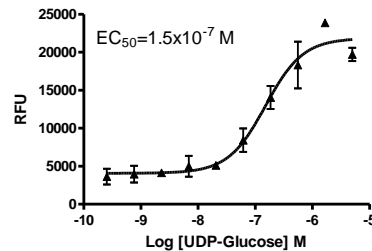


Figure 2

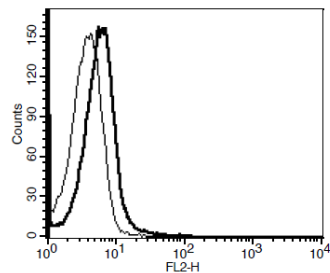


Figure 1. Dose-dependent stimulation of calcium flux upon treatment with ligand, measured with Multiscreen™ Calcium 1.0 No Wash Assay Kit (Multispan MSCA01). **Figure 2.** Receptor expression on cell surface measured by flow cytometry (FACS) using an anti-FLAG antibody. Thin line: parental cells; thick line: receptor-expressing cells.

References:

Abbracchio *et al.* (2003) Characterization of the UDP-glucose receptor (re-named here the P2Y₁₄ receptor) adds diversity to the P2Y receptor family. *Trends Pharmacol Sci* 24:52-55.

Lee *et al.* (2003) P2Y-like receptor, GPR105 (P2Y₁₄), identifies and mediates chemotaxis of bone-marrow hematopoietic stem cells. *Genes Dev* 17:1592-1604.

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