

MULTISCREEN™ DIVISION ARRESTED CELL LINE HUMAN RECOMBINANT GPR75 RECEPTOR

Data sheet

PRODUCT INFORMATION

Catalog Number: DCA1129bBA1

Lot Number: DCA1129bBA1-020626

Quantity: 1 vial (4 x 10⁶) frozen cells

Freeze Medium: Cellbanker 2

Host cell: HEK293T β-Arrestin1

Transfection: Expression vector containing full-length human GPR75 cDNA (GenBank accession number AF072693.1) with FLAG tag sequence at N-terminus

Recommended Storage: Liquid nitrogen upon receiving

Propagation Medium: DMEM, 10% FBS

Background: GPR75 is a class A orphan G protein-coupled receptor expressed in most tissues, but highly expressed in the brain. Studies have suggested that GPR75 is involved in hypertension, metabolic syndrome, obesity, and cancer, and may be a viable therapeutic target for the treatment of these conditions. Binding studies have shown that the eicosanoid 20-hydroxyeicosatetraenoic acid (20-HETE) and the chemokine CCL5 (RANTES) bind to GPR75, but the outcomes of these binding interactions are disputed. GPR75 associates with G_{αq}, and therefore its activation should result in an increase in [cytoplasmic Ca²⁺] through the phospholipase C / inositol triphosphate pathway.

Application: Functional assays

Figure 1

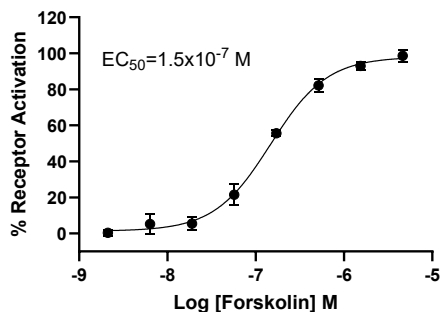


Figure 1. Dose-dependent inhibition of forskolin-stimulated intracellular cAMP accumulation upon treatment with ligand, measured with MULTISCREEN™ TR-FRET cAMP 1.0 No Wash Assay Kit (Multispan MSCM01).

References:

Pascale et al. (2021) Uncovering the signalling, structure and function of the 20-HETE-GPR75 pairing: Identifying the chemokine CCL5 as a negative regulator of GPR75. *Br J Pharmacol.* 178:3813-3828.

Dashti et al. (2023) G Protein-Coupled Receptor 75 (GPR75) As a Novel Molecule for Targeted Therapy of Cancer and Metabolic Syndrome. *Asian Pac J Cancer Prev.* 24(5):1817-1825.

Ignatov et al. (2006) RANTES stimulates Ca²⁺ mobilization and inositol triphosphate (IP₃) formation in cells transfected with G protein-coupled receptor 75. *Br J Pharmacol.* 149:490-497.

Garcia et al. (2017) 20-HETE Signals Through G Protein-Coupled Receptor GPR75 (G_q) to Affect Vascular Function and Trigger Hypertension. *Circ Res.* 120(11):1776-1788.

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