MULTISCREEN™ DIVISION-ARRESTED CELL LINE HUMAN RECOMBINANT GPR68 RECEPTOR

Data Sheet

PRODUCT INFORMATION

Catalog Number: DC1123

Lot Number: DC1123-062416

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

Freeze Medium: Sigma Freezing Medium (C-6164)

Host cell: HEK293T

Transfection: Expression vector containing full-length human GPR68 cDNA (GenBank Accession Number NM_003485) with FLAG tag sequence at N-terminus

Recommended Storage: Liquid nitrogen upon receiving

Propagation Medium: DMEM, 10% FBS

Stability: Stable for 1 -2 days after thawing

Background: GPR68, also known as ovarian cancer G-protein-coupled receptor 1 (OGR1), was previously considered a receptor for sphingosylphosphorylcholine. Recent studies revealed that GPR68 is a proton-sensing GPCR that plays a major role in pH homeostasis. The receptor is expressed in the kidney, placenta, heart, lung, brain, spleen, testis, small intestines, and peripheral blood leucocytes. GPR68 stimulates inositol phosphate (IP) production, Ca^{2+} mobilization, and cAMP accumulation. The receptor is involved in cell-mediated responses to acidosis in the bone, acts as a metastasis suppressor gene in prostate cancer, and is a potential therapeutic target for obstructive lung diseases.

Application: Functional assays

Figure 1

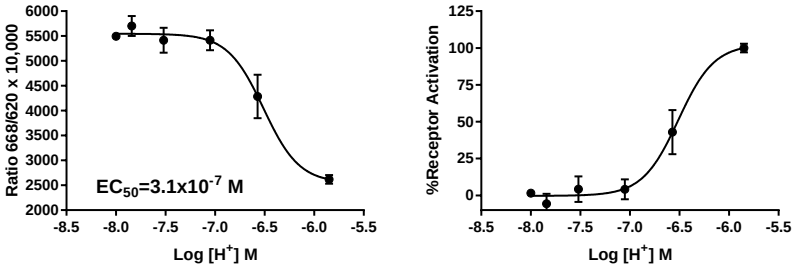

Figure 1. Dose-dependent increase of intracellular cAMP level upon treatment with ligand, measured with Multiscreen™ TR-FRET cAMP 1.0 No Wash Assay Kit (Multispan MSCM01).

References:

Ludwig, M.-G., Vanek, M., Guerini, D., Gasser, J. A., Jones, C. E., Junker, U., Hofstetter, H., Wolf, R. M., Seuwen, K. Proton-sensing G-protein-coupled receptors. Nature 425: 93-98, 2003.

Saxena, H., Deshpande, D., Tiegs, B., Yan, H., Battafarano, R., Burrows, W., Penn, R. (2012). The GPCR OGR1 (GPR68) mediates diverse signalling and contraction of airway smooth muscle in response to small reductions in extracellular pH. British Journal of Pharmacology, 166(3), 981–990.

Yang M, et al.(2006) Expression of and role for ovarian cancer G-protein–coupled receptor 1 (OGR1) during osteoclastogenesis. J Biol Chem 281(33):23598–23605.

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