MULTISCREEN™ β-ARRESTIN STABLE CELL LINE HUMAN RECOMBINANT GPR68 RECEPTOR

Data Sheet

PRODUCT INFORMATION

Catalog Number: CA1123

Lot Number: CA1123-081619

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

Freeze Medium: Cellbanker 2

Host cell: HEK293T

Transfection: Expression vector containing full-length human GPR68 cDNA (GenBank Accession Number NM_003485) with FLAG tag sequence at N-terminus and ARRB2 cDNA (GenBank Accession Number NM_004313.3)

Recommended Storage: Liquid nitrogen upon receiving

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

Stability: Stability in progress

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

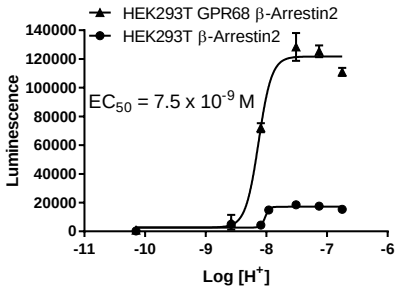

Figure 2

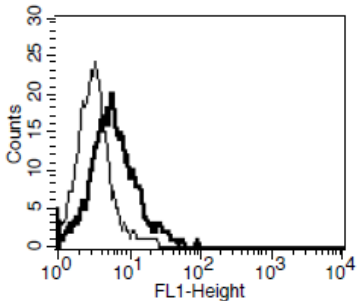

Figure 1. Dose-dependent stimulation from arrestin recruitment upon treatment with ligand, measure with MultiScreen™ β-Arrestin Assay Kit (Multispan MSBAK01). **Figure 2.** Receptor expression on cell surface measured by flow cytometry (FACS) using an anti-FLAG antibody. Thin line: parental cells; thick line: receptor-expressing cells.

References:

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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