

**MULTISCREEN™ STABLE CELL LINE  
HUMAN RECOMBINANT GPR68 RECEPTOR**

**Data Sheet**

**PRODUCT INFORMATION**

**Catalog Number:** C1123

**Lot Number:** C1123-061316

**Quantity:** 1 vial (2 x 10<sup>6</sup>) 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

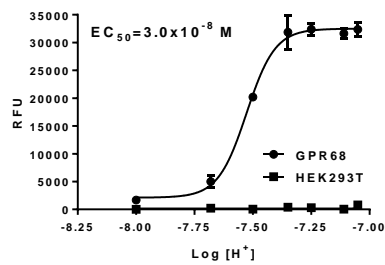
**Propagation Medium:** DMEM, 10% FBS, 1 µg/mL puromycin

**Stability:** Stability in progress

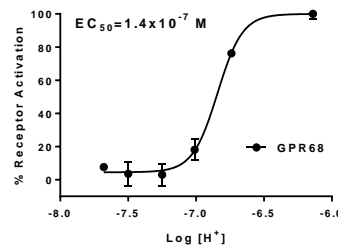
**Background:** GPR68, also known as ovarian cancer G-protein-coupled receptor 1 (OGR1), was previously considered a receptor for sphingosylphosphorylcholine. Recent studies revealed that GPR68 is a proton-sensing GPCR that plays a major role in pH homeostasis. The receptor is expressed in the kidney, placenta, heart, lung, brain, spleen, testis, small intestines, and peripheral blood leucocytes. GPR68 stimulates inositol phosphate (IP) production, Ca<sup>2+</sup> 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

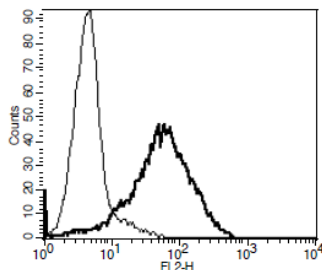
**Figure 1**



**Figure 2**



**Figure 3**



**Figure 1.** Dose-dependent calcium flux upon treatment with ligand, measured with Multiscreen™ Calcium 1.0 No Wash Assay Kit (Multispan MSCA01). **Figure 2.** 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). **Figure 3.** 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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