

**MULTISCREEN™ STABLE CELL LINE  
HUMAN RECOMBINANT GPR3 RECEPTOR**

**Data sheet**

**PRODUCT INFORMATION**

**Catalog Number:** C1091

**Lot Number:** C1091-082710

**Quantity:** 1 vial ( $2 \times 10^6$ ) frozen cells

**Freeze Medium:** Sigma Freezing Medium (C-6164)

**Host cell:** HEK293T

**Transfection:** Expression vector containing full-length human GPR3 cDNA (GenBank accession number NM\_005281.2) with FLAG tag sequence at N-terminus

**Recommended Storage:** Liquid nitrogen upon receiving

**Propagation Medium:** DMEM, 10% FBS, 1  $\mu$ g/mL puromycin

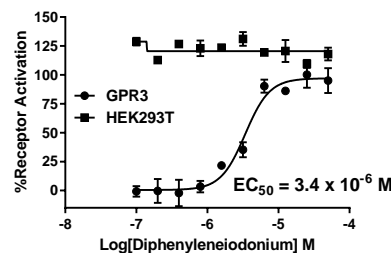
**Stability:** Stable in culture for minimum of two months

**Background:** GPR3 cDNA was first isolate from a rat insulinoma cell line and a human neuroblastoma cDNA library. It expresses in low abundance predominantly in the central nervous system and at low levels in lung and kidney. GPR3 is involved in maintaining meiotic arrest in mammalian oocytes. Oocytes from GPR3 knockout mice resumed meiosis within antral follicles, independently of an increase in luteinizing hormone. In GPR3-null mice, progressive reduction in litter size was observed. Aging GPR3-null mice had severe reduction of fertility, manifested by an increasing number of nondeveloping early embryos upon spontaneous ovulation and massive amounts of fragmented oocytes after superovulation. Based on the above evidence, it was concluded that GPR3 plays a role in the protection or rescue of oocytes from aging.

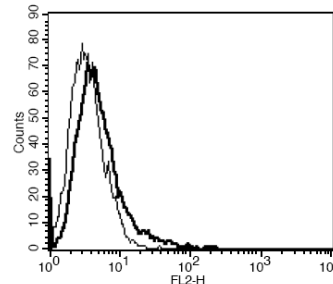
GPR3 is a Gs-coupled receptor and has constitutive activity upon expression. Multispan's GPR3 cell line has a moderately elevated cAMP level that can be inhibited by a proprietary GPR3 antagonist (data not shown).

**Application:** Functional assays

**Figure 1:**



**Figure 2:**



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

Eggerickx *et al.* (1995) Molecular cloning of an orphan G-protein-coupled receptor that constitutively activates adenylate cyclase. *Biochem J* 309:837-843.

Iismaa *et al.* (1994) Isolation and chromosomal localization of a novel human G-protein-coupled receptor (GPR3) expressed predominantly in the central nervous system. *Genomics* 24:391-394.

Mehlmann *et al.* (2004) The G(S)-linked receptor GPR3 maintains meiotic arrest in mammalian oocytes. *Science* 306:1947-1950.

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