

Human G protein-coupled receptor 119 (GPR119) ACTOne™ Stable Cell Line

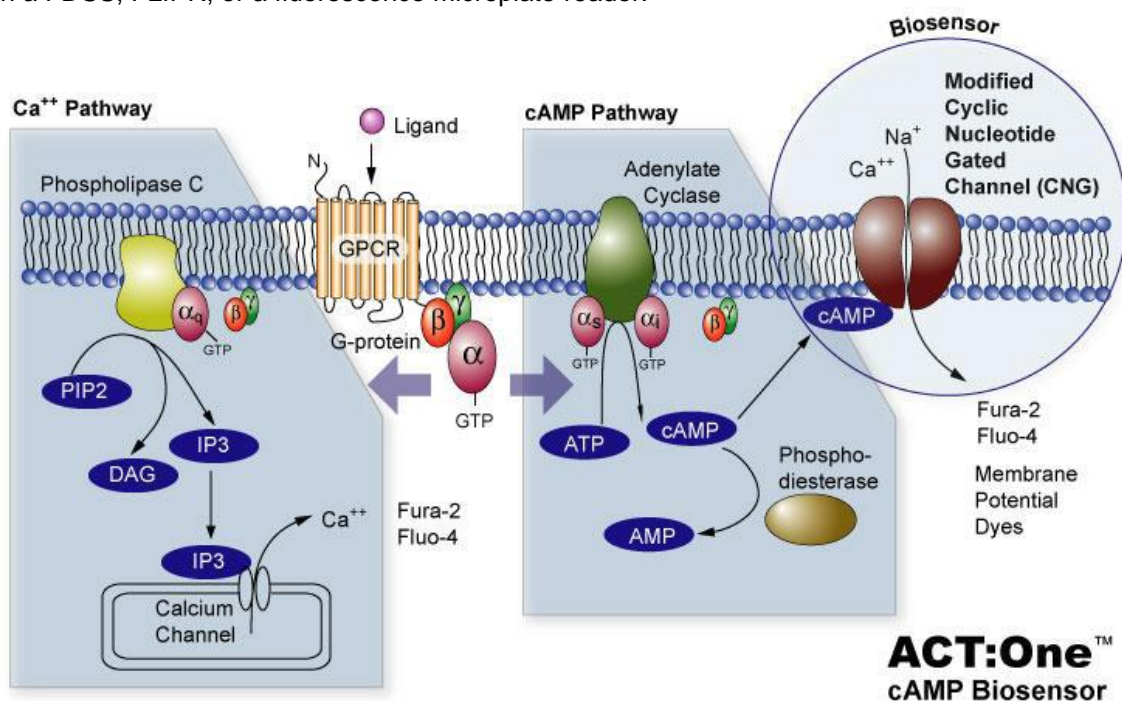
CATALOG NUMBER: CL-01-GPR119

Introduction

GPR119, expressed in the pancreas and gastrointestinal tract, encodes a member of the rhodopsin subfamily of G-protein-coupled receptors. The encoded protein is activated by lipid amides including lysophosphatidylcholine and oleoylethanolamide and may be involved in glucose homeostasis. This protein is a potential drug target in the treatment of type 2 diabetes.

Description

Human GPR119 ACTOne™ is a HEK293-CNG cell line that expresses recombinant human GPR119. HEK293-CNG cells express a modified CNG (Cyclic Nucleotide Gated) channel that opens in response to elevated intracellular cAMP levels and consequently result in ion flux and cell membrane depolarization which can be easily measured with fluorescent Membrane Potential Dye (Cat# CA-M165). The assay allows both end-point and kinetic measurement of intracellular cAMP changes with a FDSS, FLIPR, or a fluorescence microplate reader.



Parental Cells

HEK-293 CNG cells (originally developed by BD Biosciences by introducing CNG in HEK-293 cells) (Cat# CL-03-PC20)

Gene/Enzyme Introduced

GPR119 (NCBI protein database XP_066873.1)

Applications

- cAMP dependent cell-based assay for Gs-coupled human G-protein coupled receptor (GPR119)
- cell based high-throughput screening of human GPR119 receptor agonists/antagonists

Functional Test

- this cell line has been tested positive for GPR119 receptor specific response
- surviving rate: More than 2.5 million/vial on the second day after thawing
- the receptor specific activity is stable for 10 weeks continuous passage

Mycoplasma Contamination Test

This cell line has been tested negative for *Mycoplasma sp.*

Growth Properties

Adherent

Cell Culture Medium

- Growth medium: 90% DMEM, 10% FBS, supplemented with 250 µg/ml G418, 1 µg/ml Puromycin
- Freezing medium: 10% DMSO, 90% FBS

Storage

Remove the frozen cells from the dry ice packaging and immediately place the cells at a temperature below -130°C, preferably in liquid nitrogen vapor, until ready for use.

DATA EXAMPLE

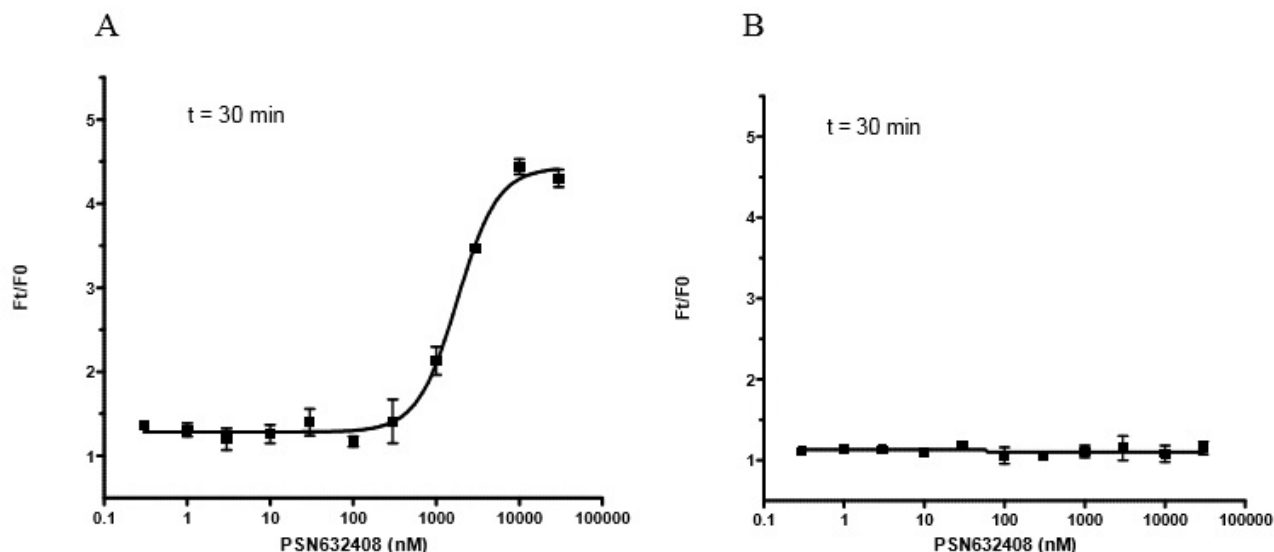


Figure 1. Response of ACTOne GPR119 cell line & parental cell line to PSN632408.

ACTOne GPR119 cells and parental cells (Cat# CL-03-PC20) were plated overnight in 20 µl culture medium on a BD Biocoat 384 well plate. The next day, cells were dye-loaded with 20 µl/well of 1X Dye-loading solution (Membrane Potential Assay Kit). After 2 hours of incubation at room temperature, two readings were obtained prior to and 30 min after the addition of PSN632408. Ratios of the two readings (F/F0) are plotted in the figure.

- Dose response curve of PSN632408 in ACTOne GPR119 cell line. EC50 = 1.8 µM in the presence of 25 µM of PDE inhibitor Ro20-1724.
- Parental cells do not respond to PSN632408.

Notice to Purchaser

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