

## Vasoactive Intestinal Peptide Receptor 2 (VIPR2) ACTOne™ Stable Cell Line

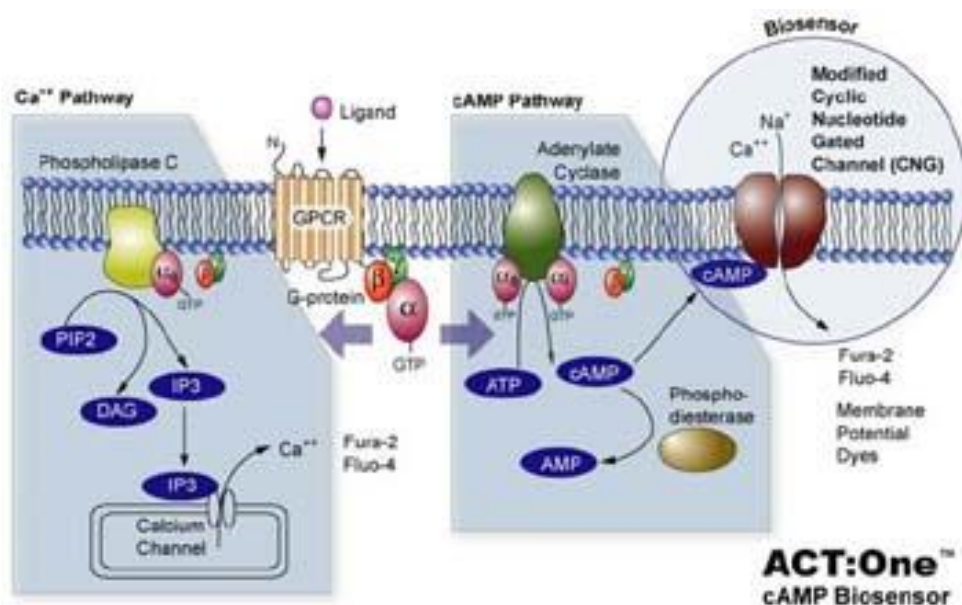
CATALOG NUMBER: CL-01-VIPR2

### Introduction

VIPR2 belongs to the members of 7 transmembrane G protein-coupled receptor family. It binds both vasoactive intestinal peptide (VIP) and pituitary adenylate cyclase-activating polypeptide (PACAP). VIPR2 is expressed in the uterus, prostate, smooth muscle of the gastrointestinal tract, seminal vesicles and skin, blood vessels, thymus, and also cerebellum.

### Description

Human VIPR2 ACTOne™ is a HEK-293 CNG cell line that expresses recombinant human VIPR2. HEK-293 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 (often detectable by calcium-responsive dye, Cat# CA-C155) 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 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

VIPR2 (Genbank Accession No. NP\_003373)

### Applications

- cAMP dependent human VIPR2 cell based assay
- cell based high-throughput screening of human VIPR2 inhibitors

### Functional Test

- this cell line has been tested positive for VIPR2 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 lot of cells has been tested and found to be free of mycoplasma contamination.

## Content

- Stable cells: 1 mL (1 x 10<sup>6</sup> cells/mL in 70% DMEM, 20% FBS, 10% DMSO)

## Growth Properties

Adherent

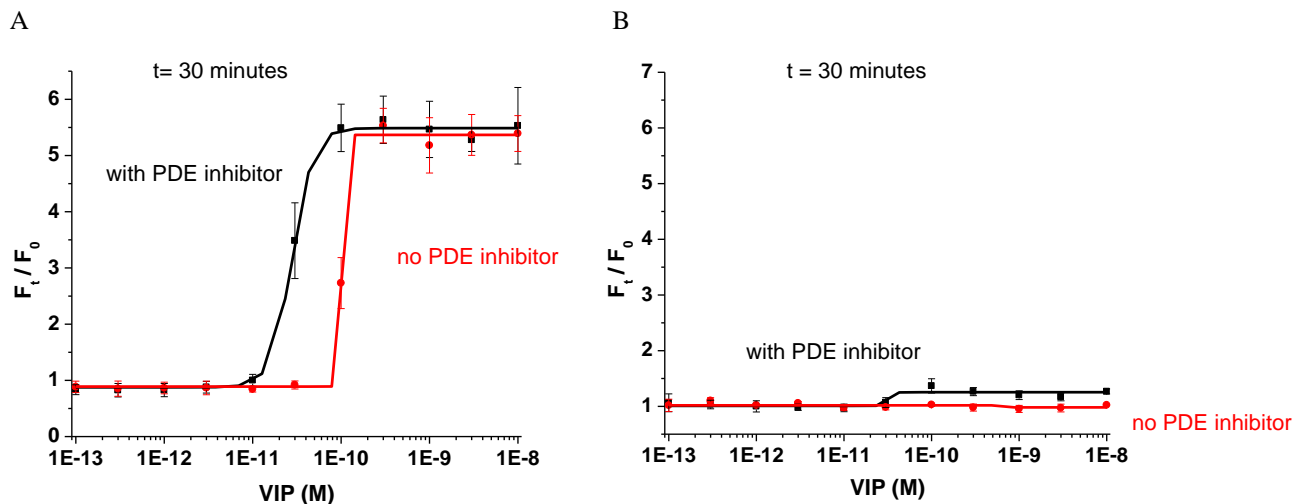
## Cell Culture Medium

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

## 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 Analysis



**Figure 1. Response of ACTOne™ VIPR2 cell line & parental cell line to VIP.**

ACTOne™ VIPR2 cells and parental cells (Cat# CL-03-PC20) were plated overnight in 20 µl culture medium on a 384 well Biocoat plate. The next day, cells were dye-loaded with 20 µl/well of 1x Dye-loading solution (membrane potential dye kit, Cat# CA-M165). After 2 hours of incubation at room temperature, two readings were obtained prior to and 30 min after the addition of VIP. Ratios of the two readings (F/F<sub>0</sub>) are plotted in the figure.

- Dose response curve of VIP in ACTOne™ VIPR2 cell line. EC<sub>50</sub> = 28 nM in the presence of PDE inhibitor Ro 20-1724 and EC<sub>50</sub> = 100 µM in the absence of Ro20-1724.
- Parental cells do not respond to VIP.

## Notice to Purchaser

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