

Human Arginine Vasopressin Receptor 2 (AVPR2) ACTOne™ Stable Cell Line

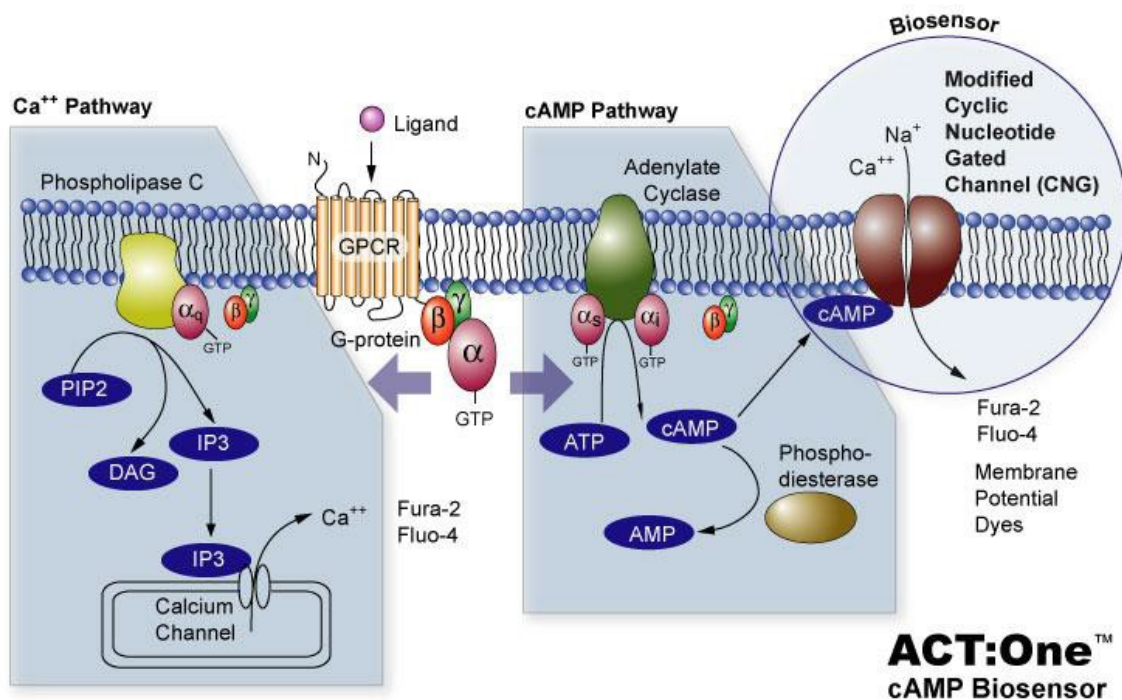
CATALOG NUMBER: CL-01-AVPR2

Introduction

AVPR2 acts as receptor for arginine vasopressin. AVPR2 belongs to the subfamily of G-protein-coupled receptors. Its activity is mediated by the Gs type of G proteins, which stimulate adenylate cyclase. It is expressed in the kidney tubule, predominantly in the distal convoluted tubule and collecting ducts, where its primary property is to respond to the pituitary hormone arginine vasopressin (AVP) by stimulating mechanisms that concentrate the urine and maintain water homeostasis in the organism.

Description

Human AVPR2 ACTOne™ is a HEK293-CNG cell line that expresses recombinant human AVPR2. 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-M145). 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

AVPR2 (Genbank Accession No. NP_000045.1)

Applications

- cAMP dependent human AVPR2 receptor cell based assay
- cell based high-throughput screening of human AVPR2 receptor agonists/antagonists

Functional Test

- this cell line has been tested positive for AVPR2 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 lot of cells has been tested and found to be free of mycoplasma contamination.

Content

- Stable AVPR2 receptor cells: 1 mL (1 x 10⁶ cells/mL in 70% DMEM, 20% FBS, 10% DMSO)

Growth Properties

Adherent

Cell Culture Medium

- Growth medium (for AVPR2 receptor stable cells): 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 EXAMPLE

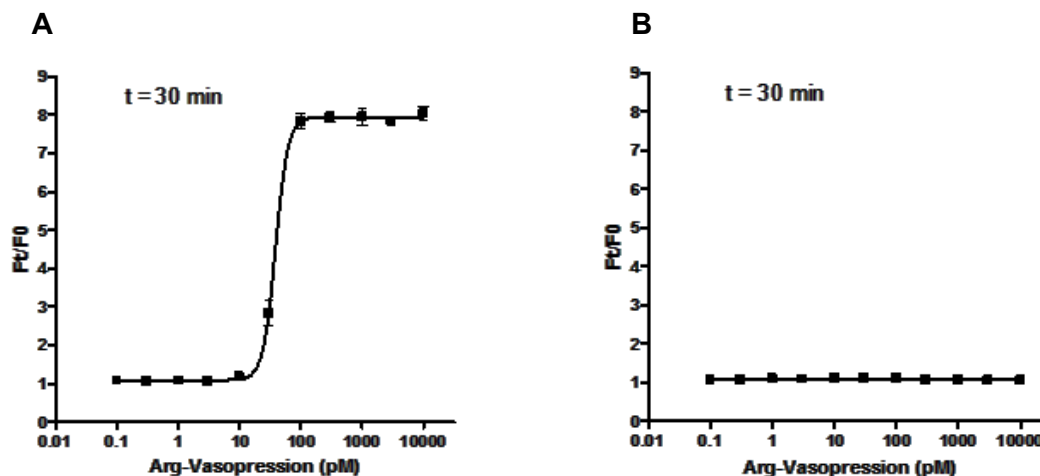


Figure 1. Response of ACTOne AVPR2 cell line & parental cell line to Arginine Vasopressin.

ACTOne AVPR2 cells and parental cells (Cat# CL-03-PC20) were plated overnight in 20 µl culture medium on a BD Biotec 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 Arginine Vasopressin. Ratios of the two readings (F/F0) are plotted in the figure.

- Dose response curve of Arginine Vasopressin in ACTOne AVPR2 cell line. EC50 = 38.6 pM in the presence of PDE inhibitor Ro20-1724, and EC50 = 110 pM in the absence of Ro20-1724 (data not shown).**
- Parental cells do not respond to Arginine Vasopressin.**

Limited Label License Outlines

This cell line is to be used for research purposes only. It may not be transferred to third parties, resold, modified for resale, or used to manufacture commercial products or to provide a service to third parties without written approval of eEnzyme LLC.

The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product for research use only by the buyer, where such research does not involve testing, analysis or screening services for any third party in return for compensation on a per test basis. The buyer cannot sell or otherwise transfer (a) this product (b) its components or (c) materials made using this product or its components to a third party or otherwise use this product or its components or materials made using this product or its components for Commercial Purposes. Commercial Purposes means any activity by a party for consideration and may include, but is not limited to: (1) use of the product or its components in manufacturing; (2) use of the product or its components to provide a service, information, or data to third parties; (3) use of the product or its components for therapeutic, diagnostic or prophylactic purposes; or (4) resale of the product or its components, whether or not such product or its components are resold for use in research.

Please refer to the Limited Label License for GPCR Research/Evaluation provided with the shipment of the cells.

For more information, contact eEnzyme LLC, USA, Tel: (240)-683-5851, FAX: (240)-683-5852, Email: info@eenzyme.com.

