

## Glucagon-like peptide 1 receptor (GLP1R) ACTOne™ Stable Cell Line

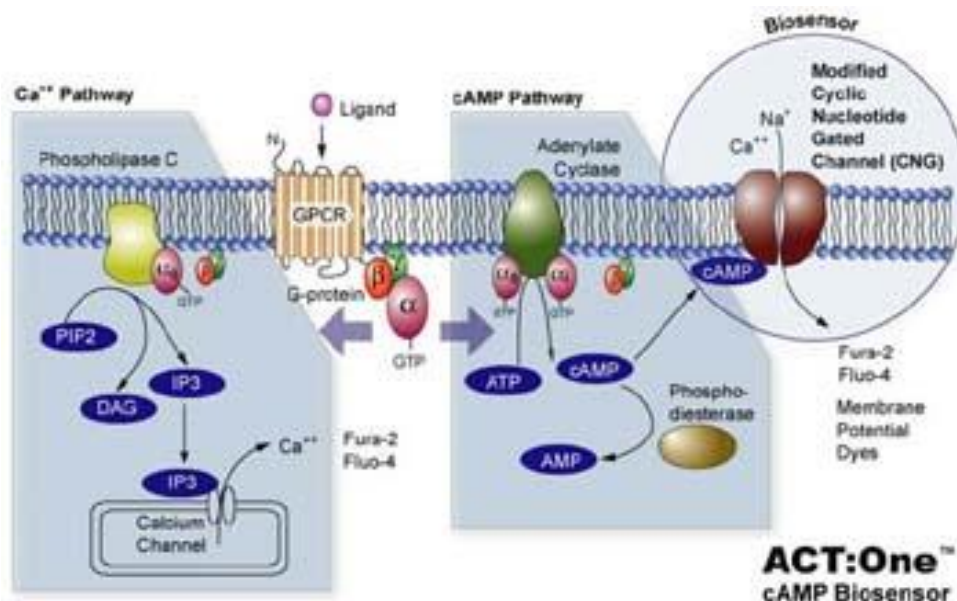
CATALOG NUMBER: CL-01-GLP1R

### Introduction

GLP1R is a member of the glucagon receptor family of G protein-coupled receptor. It binds specifically the glucagon-like peptide-1 (GLP1) and has much lower affinity for related peptides such as the gastric inhibitory polypeptide and glucagon. Activated GLP1R stimulates the adenylyl cyclase pathway which results in increased insulin synthesis and release of insulin.

### Description

Human GLP1R ACTOne™ is a HEK-293 CNG cell line that expresses recombinant human GLP1R. 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

GLP1R (Genbank Accession No. NP\_002053.2)

### Applications

- cAMP dependent human GLP1R cell based assay
- cell based high-throughput screening of human GLP1R inhibitors

### Functional Test

- this cell line has been tested positive for GLP1R 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

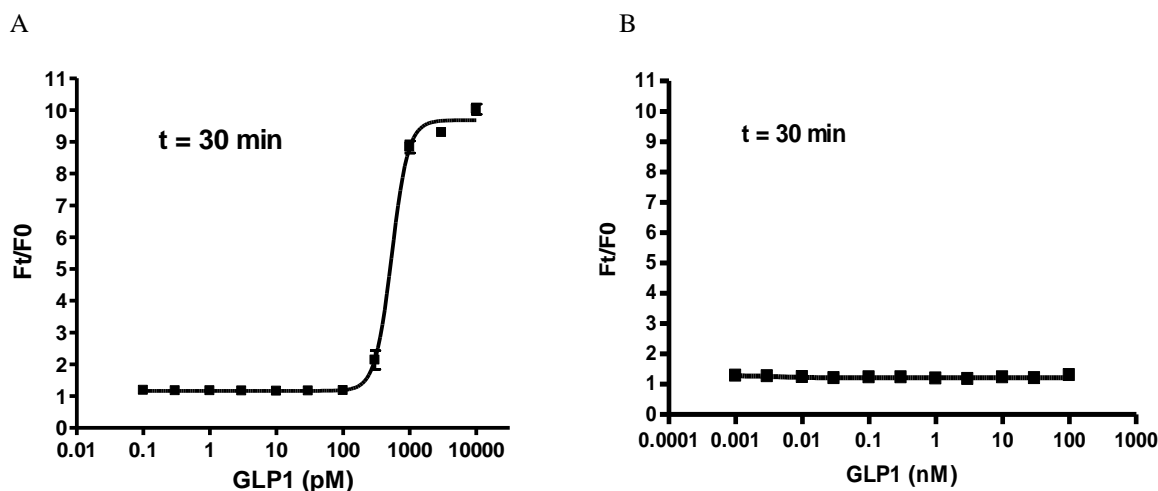
## Cell Culture Medium

- 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™ GLP1R cell line & parental cell line to GLP-1.**

ACTOne™ GLP1R 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 GLP-1. Ratios of the two readings (Ft/F0) are plotted in the figure.

- Dose response curve of GLP-1 in ACTOne™ GLP1R cell line. EC50 = 536 pM in the presence 25 µM of PDE inhibitor Ro 20-1724.**
- Parental cells do not respond to GLP-1.**

## Notice to Purchaser

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