

## Human 5-hydroxytryptamine (serotonin) receptor 1F (HTR1F) ACTOne™ Stable Cell Line

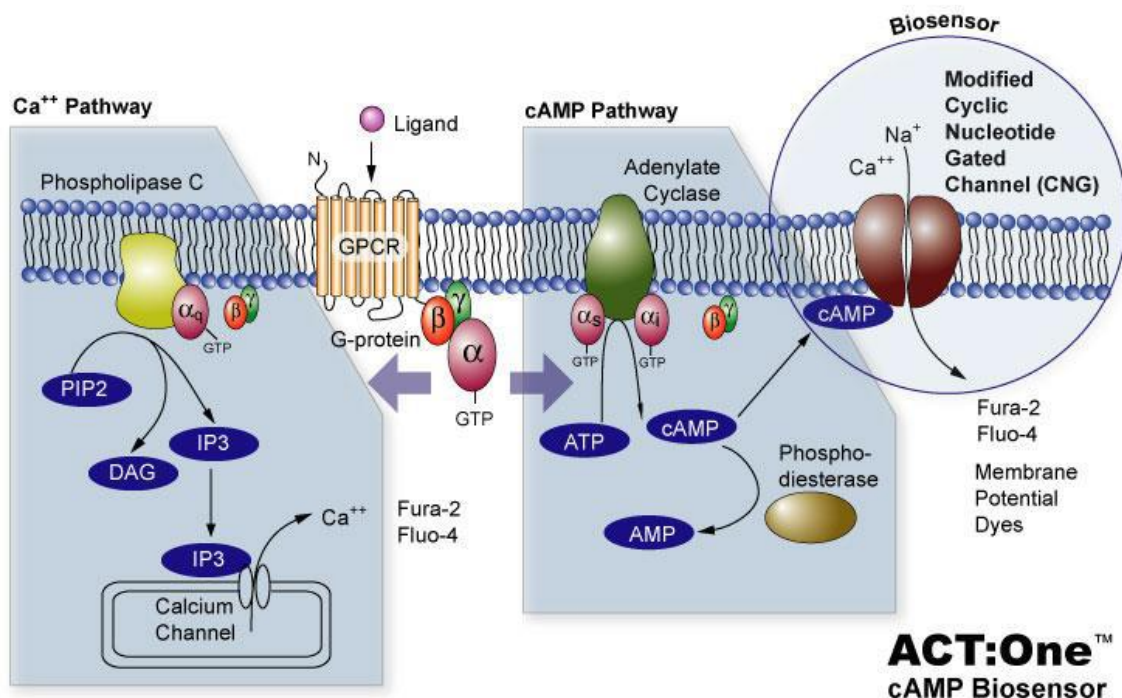
CATALOG NUMBER: CL-11-HTR1F

### Introduction

HTR1F encodes the G-protein coupled receptor for 5-hydroxytryptamine (serotonin). This protein functions as a receptor for various alkaloids and psychoactive substances. Ligand binding causes a conformation change that triggers signaling via guanine nucleotide-binding proteins (G proteins) and modulates the activity of down-stream effectors, such as adenylate cyclase. Signaling inhibits adenylate cyclase activity.

### Description

Human HTR1F ACTOne™ is a HEK293-CNG cell line that expresses recombinant human HTR1F. 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

HTR1F (NCBI protein database NP\_000857)

### Applications

- cAMP dependent cell-based assay for Gi-coupled human 5-hydroxytryptamine (serotonin) receptor 1F (HTR1F)
- cell-based high-throughput screening of human HTR1F receptor agonists/antagonists

### Mycoplasma Contamination Test

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

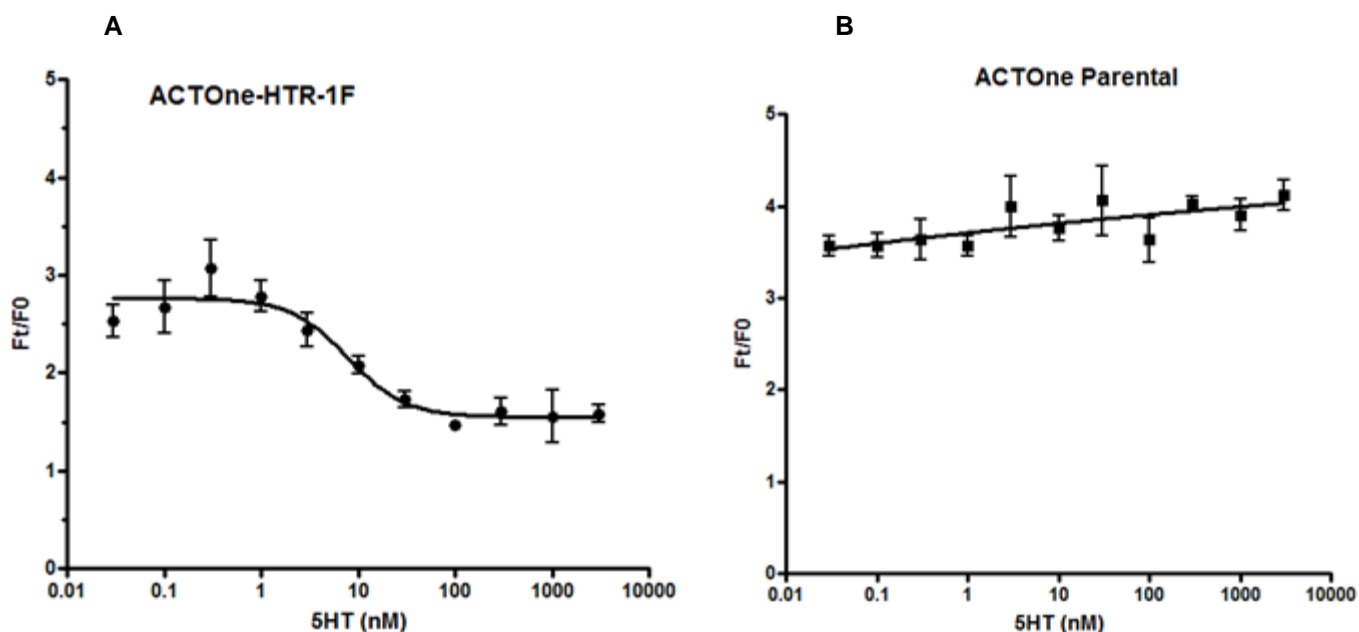
### Growth Properties

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

### DATA EXAMPLE



**Figure 1. Response of ACTOne HTR1F cell line & parental cell line to 5HT.**

ACTOne HTR1F cells and parental cells (Cat# CL-03-PC20) were plated overnight in 20 µl culture medium on a BD Biotac 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 40 min after the addition of 5HT. Ratios of the two readings (F/F0) are plotted in the figure.

- Dose response curve of 5HT in ACTOne HTR1F cell line. EC50 = 7.9 nM in the presence of PDE inhibitor Ro20-1724 and β-adrenoceptor agonist isoproterenol.**
- Parental cells do not respond to 5HT.**

### Notice to Purchaser

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