innoprot
cell based solutions

NOMAD CELL LINES

cAMPNOMAD HTR1A

P70525

Nomad Biosensors™ comprise a family of genetically encoded fluorescent sensors designed to monitor the signaling of G protein-coupled receptors (GPCRs) in cell-based assays.

Nomad Biosensors™ are engineered to measure the intracellular dynamics of second messengers such as calcium (Ca^{2+} Nomad), cAMP (cAMP Nomad), or diacylglycerol (DAG Nomad) upon GPCR activation. Additionally, β-arrestin signaling can also be studied using these biosensors. Nomad Biosensors™ can be combined in the same cell line for multiplex assays.

Prior to GPCR activation, the biosensors are localized in the plasma membrane. Upon ligand binding, the sensors undergo a conformational change that leads to an increase in fluorescence intensity and their relocalization within the vesicular trafficking pathways of the cells.

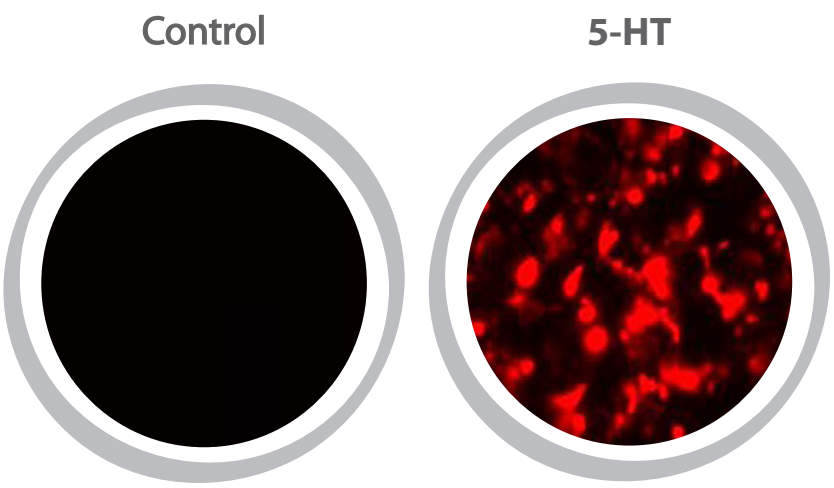
cAMP Assay

Product Name: cAMPNomad-HTR1A cell line
Reference: P70525
Gene Name: 5-hydroxytryptamine (Serotonin) Receptor 1A (HTR1A)
cDNA Accession Number: NM_000524.3
Host Cell Line: HEK293
Selection Markers: Geneticin (G418) + Puromycin
Cell Quantity: > $3x10^6$ cells/vial
Storage Conditions: Liquid Nitrogen

About cAMPNomad-HTR1A

Nomad cell lines are a reliable system for studying G protein-coupled receptor (GPCR) signaling in living cells.

Optimized for the integration into High Content Screening (HCS) and High Throughput Screening (HTS) workflows, cAMPNomad-HTR1A cell line stably express red cAMPNomad Biosensor along with the 5-hydroxytryptamine (Serotonin) Receptor 1A (HTR1A).



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cAMP Agonism Assays

The cAMPNomad-HTR1A cell line was plated in a 96-well plate and incubated for a minimum of 4 hours and up to 24 hours at 37°C with 5% CO_2 to allow the cells to attach to the plate surface.

Agonism Assay: Cells were incubated with 5-HT diluted in a serum-reduced medium for 20–24 hours.

The increase (Agonism Assay) or decrease (Antagonism Assay) in the fluorescence intensity of the red cAMPNomad biosensor (% Activity) was detected and analyzed using a microplate reader.

EC_{50} 5-HT: 5.31×10^{-7} M

Z´: 0.57+/- 0.01

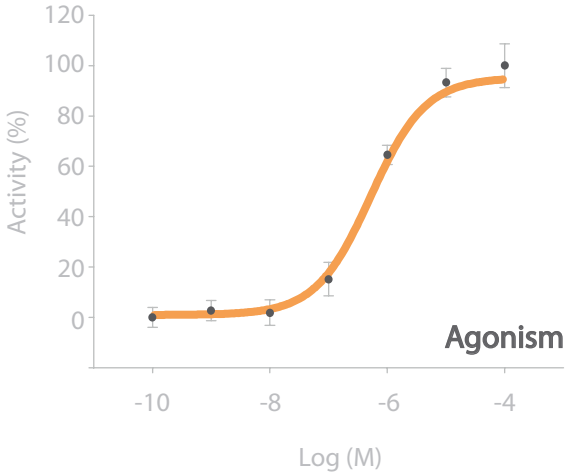

Figure 1. Dose-response curves for HTR1A ligands. *Concentration response curve for 5-HT in the agonism assay.*

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