innoprot
cell based solutions

NOMAD CELL LINES

ARRESTIN NOMAD FSHR

P70812

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), Arrestin (Arrestin 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.

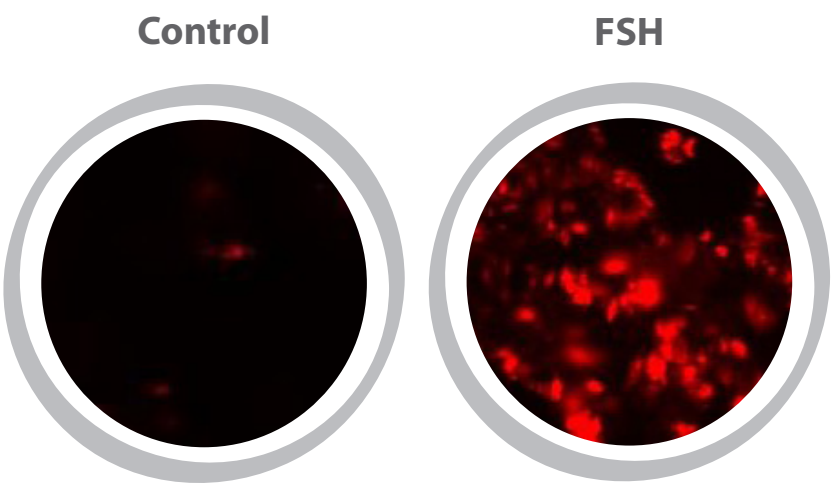
Arrestin Assay

Product Name: ARRESNomad-FSHR cell line
Reference: P70812
Gene Name: Follicle stimulating hormone receptor (FSHR)
cDNA Accession Number: AY429104
Host Cell Line: HEK293
Selection Markers: Geneticin (G418) + Puromycin
Cell Quantity: > $3x10^6$ cells/vial
Storage Conditions: Liquid Nitrogen

About ARRESNomad-FSHR

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, ArresNomad-FSHR cell line stably express red ArresNomad Biosensor along with the Follicle stimulating hormone receptor (FSHR).



NOMAD CELL LINES

Arrestin Agonism Assay

The ArresNomad-FSHR 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 FSH diluted in a serum-reduced medium for 20–24 hours.

The increase in the fluorescence intensity of the red ArresNomad biosensor (% Activity) was detected and analyzed using a microplate reader.

EC_{50} FSH: 0.076 IU/ml

Z´: 0.89+/- 0.01

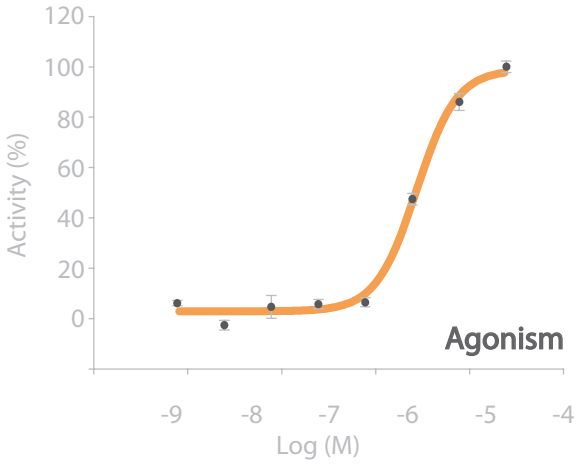


Figure 1. Dose-response curve for FSHR ligand.
Concentration response curve for FSH in the agonism assay.
The % Activity corresponds to the fluorescence intensity emitted by the red ArrestinNomad biosensor normalized against the controls.

INNOVATIVE TECHNOLOGIES IN BIOLOGICAL SYSTEMS, S.L.
Parque Tecnológico Bizkaia, Edificio 502, 1ª Planta | 48160 | Derio | Bizkaia
Tel.: +34 944005355 | Fax: +34 946579925
innoprot@innoprot.com | www.innoprot.com

innoprot cell based solutions