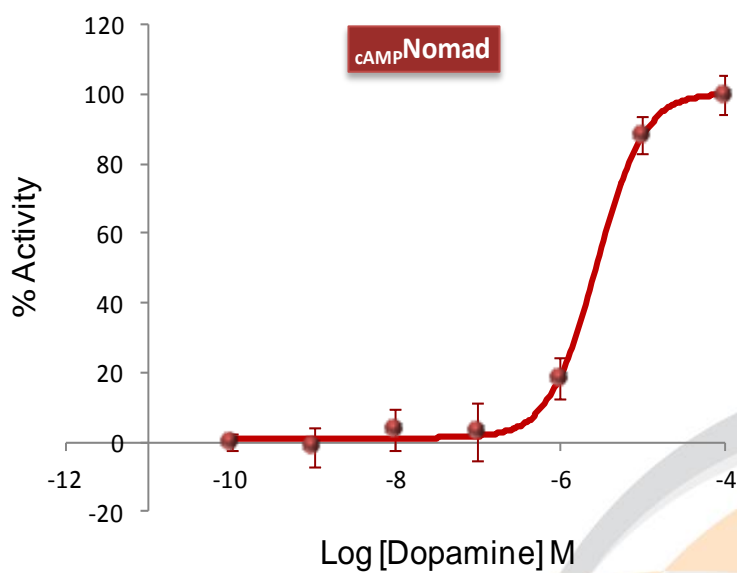
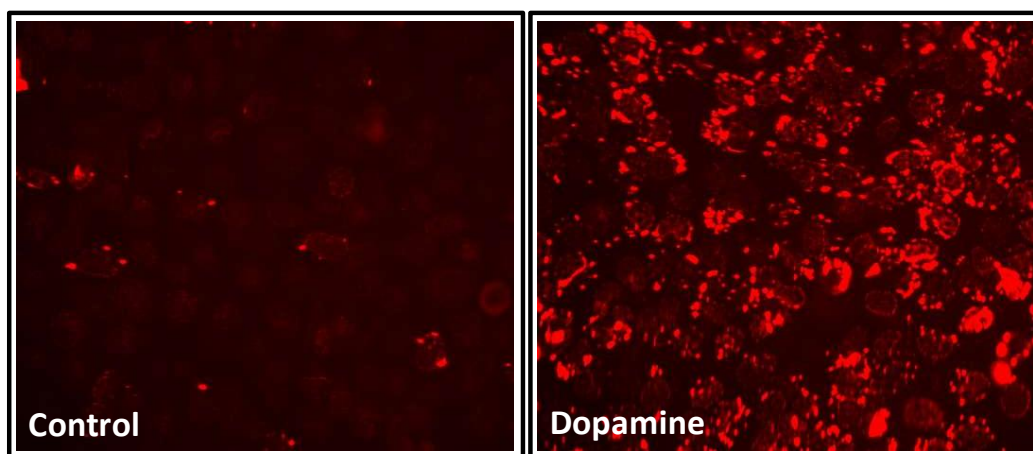


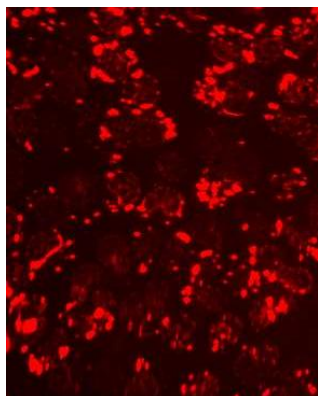
RED_{cAMP}NOMAD CELL LINES DOPAMINE RECEPTOR D2 (DRD2)



Red_{cAMP}Nomad-DRD2 (U2OS cell line)

EC₅₀ Dopamine: 2.76×10^{-6} M

Z': 0.76



Product Name: DRD2 _{cAMP}Nomad cell line

Reference: P70518

Recep. Official Full Name: Dopamine receptor D2

DNA Accession Number: KY243031.1

Host Cell: U2OS

Resistance: G418 + Puromycin

Quantity: > 3 x 10⁶ cells / vial

Storage: Liquid Nitrogen

Assay Briefly description

Each vial of _{cAMP}Nomad-DRD2 contains U2OS cells stably expressing _{cAMP}Nomad biosensor and human Dopamine receptor 2 (DRD2).

Innoprot _{cAMP}Nomad-DRD2 cell line has been designed to assay compounds or analyze their capability to modulate Dopamine receptor 2. When the agonist binds to DRD2 a G protein is activated, which in turn, triggers a cellular response mediated by second messengers (cAMP).

This cell line has been validated measuring cAMP increase in the cytosol analyzing _{cAMP}Nomad biosensor distribution within the cell. This cell line allows the image analysis of the stimuli induced by the compounds.

This highly reproducible assay can be validated using dopamine as receptor's agonist in both a High Content Analysis (HCA) and a High Throughput Analysis (HTA).

About Red _{cAMP}Nomad Biosensor

Nomad Biosensors are genetically encoded fluorescent biosensors that measure fluctuations in second messengers (Ca²⁺, cAMP or DAG) and β-arrestin signaling pathways. Upon activation, the biosensors change their localization and fluorescent intensity emission within the cell.

Before the stimulation mediated by the agonist of interest, the fluorescent biosensors are located in the cellular membrane. An increase in the second messenger concentration leads to a change in the structural folding of the Nomad Biosensors that promotes their cellular relocation in the vesicular trafficking of the cells and an increase in the fluorescence.

In a cell line co-expressing _{cAMP}Nomad Biosensor and a GPCR, the activity of the receptor can be easily quantified on living cells by image analysis or fluorescence emission.

RED_{cAMP}NOMAD CELL LINES

Red_{cAMP}Nomad U2OS cells, stably expressing Dopamine receptor D2 (DRD2), were stimulated with increasing dilutions ranging from 0 to 100 μ M of dopamine during 24h (n=4) (Fig 1). The data were normalized as percentages of activity compared with the positive control (dopamine) after subtracting the value of the vehicle control.

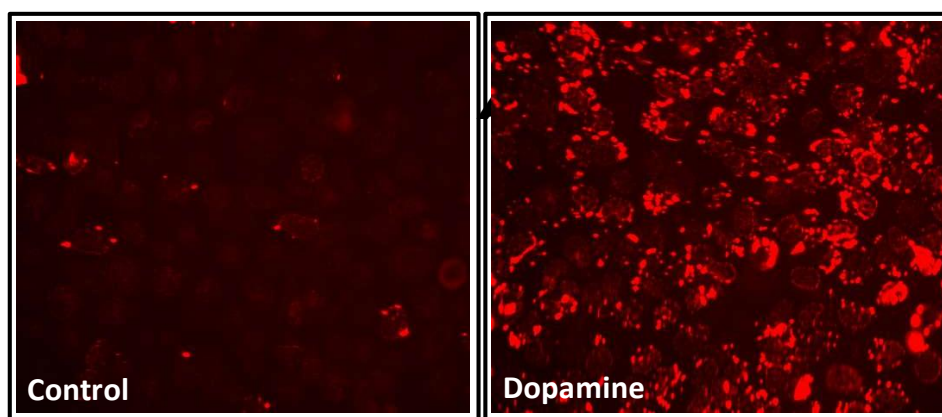


Fig 1. cAMPNomad-DRD2 cells stimulated with 10 μ M of Dopamine.

The increase in the fluorescence was detected and analyzed using the “Synergy 2” microplate reader from Biotek. The EC₅₀ for dopamine after a treatment of 24 h was 2.76×10^{-6} M for the cAMP assay (validated with a Z' = 0.76).

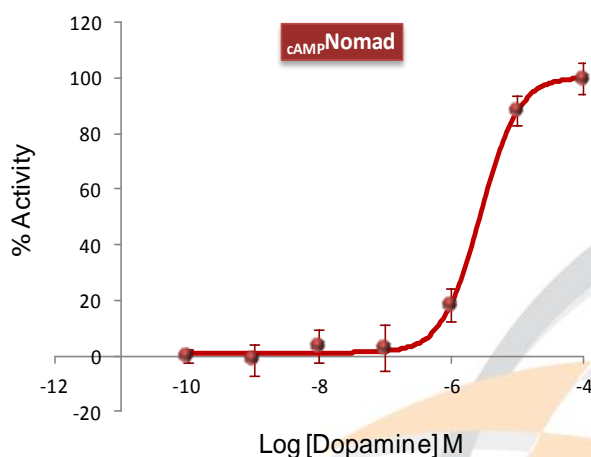


Fig 2. Concentration-response curve for dopamine in red_{cAMP}Nomad-DRD2 cell line.