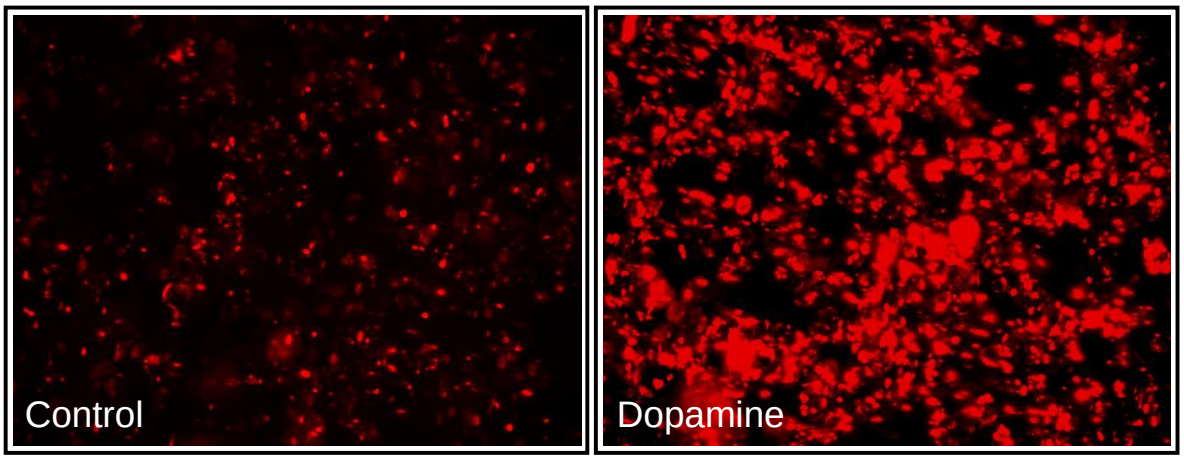
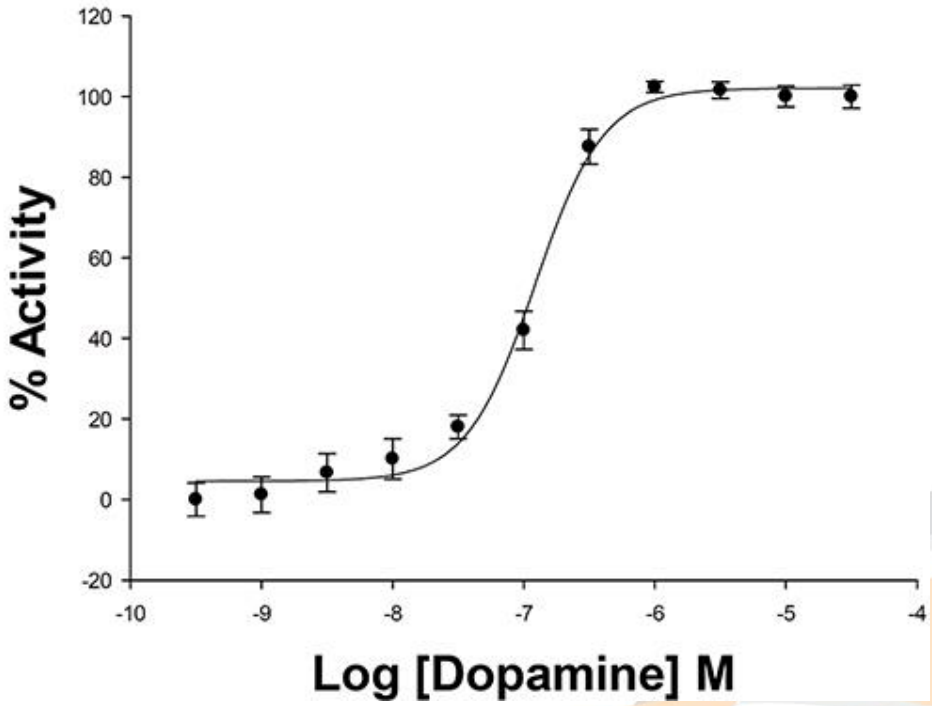
REF: P70508

cAMPNOMAD CELL LINES

-DOPAMINE RECEPTOR D1 (DRD1)-





cAMPNomad-DRD1 Cell Line

EC_{50} Dopamine: 1.22×10^{-7} M

Z´: 0.79

VAT No. ESB95481909

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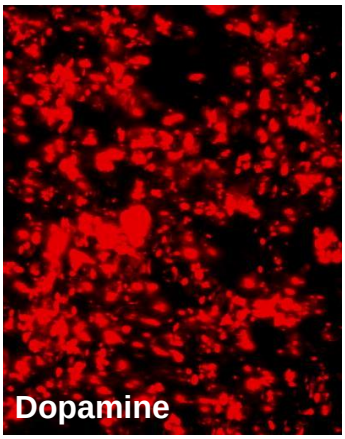

Product Name: cAMPNomad DRD1 cell line
Reference: P70508
Recp. Official Full Name: Dopamine receptor D1
DNA Accession Number: NM000794
Host Cell: HEK293
Resistance: G418 + Puromycin
Quantity: > 3 x 10^6 cells/vial
Excitation/Emission maxima: 592/650 nm

Assay's Brief description

Each vial of cAMPNomad DRD1 cell line contains HEK293 cells, stably expressing Red fluorescent cAMPNomad biosensor and dopamine receptor D1 (with no tag).

Innoprot cAMPNomad DRD1 cell line has been designed to assay compounds or analyze their capability of modulating Dopamine receptor D1. When an agonist binds to DRD1, a G protein is activated, which in turn, triggers a cellular response mediated by cAMP. This cell line has been validated measuring the cAMP increase in the cytosol, analysing cAMPNomad biosensor fluorescent intensity and distribution within the cell. This cell line, allows the measurement by both fluorescence intensity & image analysis of the stimuli induced by compounds under testing.

This highly reproducible assay, has been validated using dopamine as agonist by High throughput screening (HTS) and a High Content Analysis (HCA).

About Red cAMPNomad Biosensor

Red cAMPNomad Biosensor is a fluorescent polypeptide that in the presence or absence of cAMP, increases its fluorescence intensity and changes its localization within the cell.

cAMP concentration increase leads to a change in the structural folding of cAMPNomad Biosensor, promoting its fluorescence intensity to rise. In a cell line co-expressing the cAMPNomad Biosensor and a GPCR, upon agonist driven receptor activation, the activity can be easily quantified on living cells by fluorescence increase signal.

cAMPNomad Biosensor possesses near-infrared fluorescence (with excitation/emission maxima at 592/650 nm, respectively), optimal for detection via most popular filter sets, and is easily distinguishable from background signals

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cAMP ASSAY

Red $_{cAMP}$Nomad HEK293 cells, stably expressing Dopamine receptor D1 (DRD1), were stimulated with 9 dilution series ranging from 0 to 30 µM of Dopamine during 24h (n=8). % Activity was calculated relative to positive control (30 µM).

Fluorescence intensity analysis

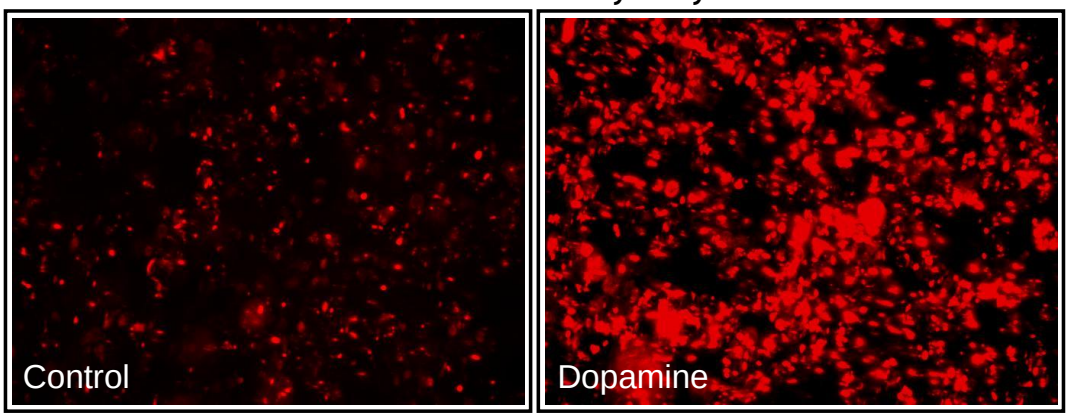

Fig1. Red $_{cAMP}$Nomad biosensor negative control and Dopamine stimulation.

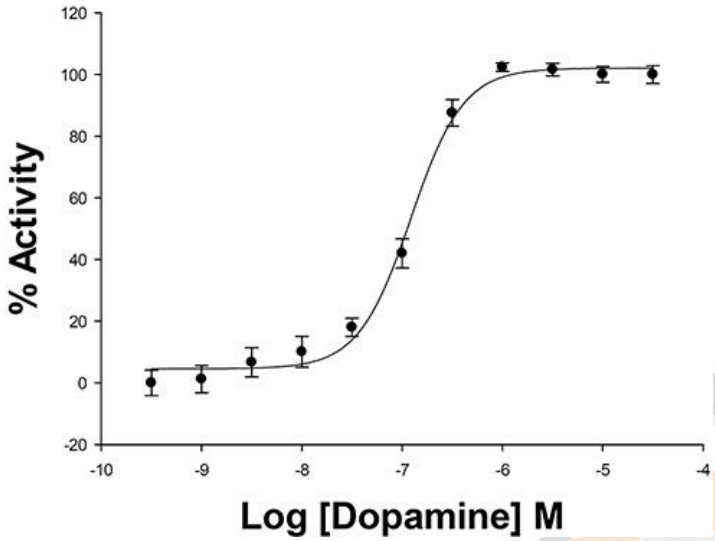

Fig 2. Concentration-response curve for Dopamine in $_{cAMP}$Nomad-DRD1 cell line analysed using "Synergy 2" microplate reader from Biotek. The EC_{50} for Dopamine was $1.22x10^{-7}$ M after a treatment of 24 h in presence of the agonist. The assay was validated with an average of Z´= 0.79.

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