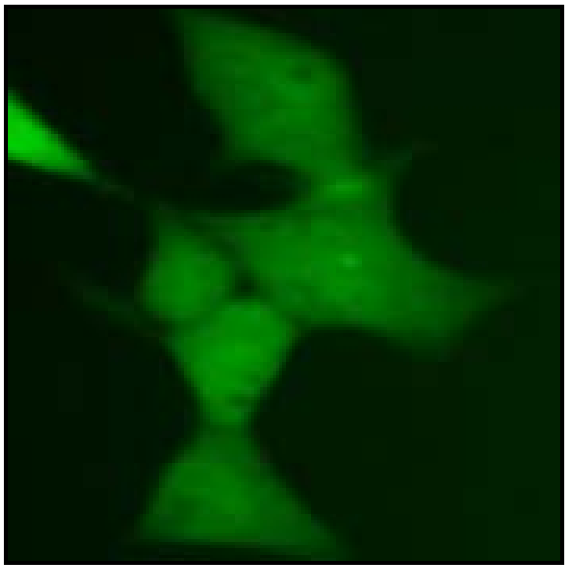
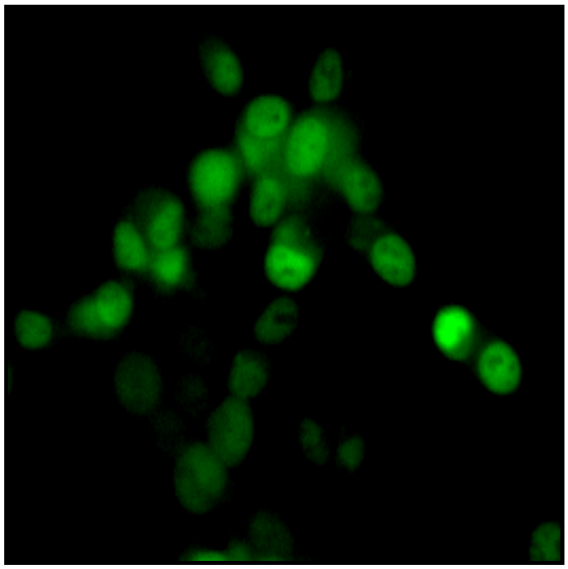
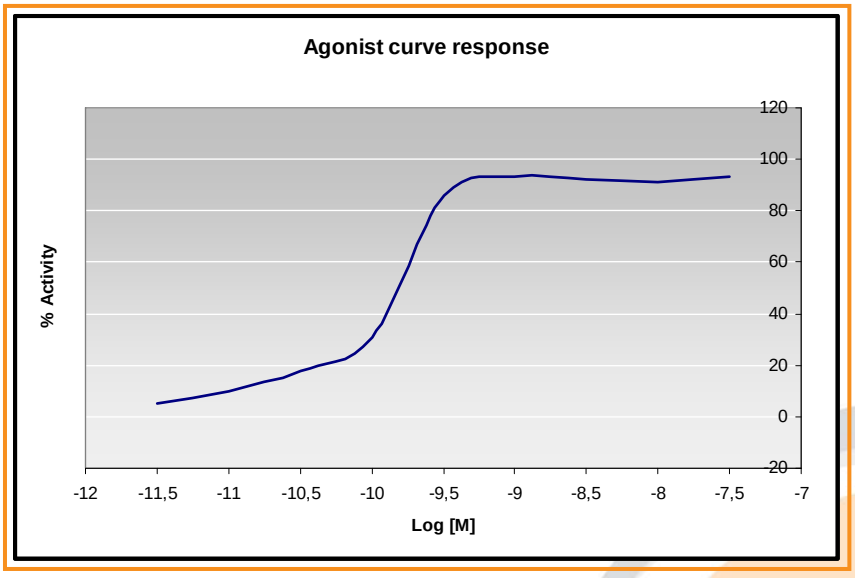
REF: P20113

NUCLEAR HORMONE RECEPTOR TRANSLOCATION ASSAYS

- FLUORESCENT HUMAN ANDROGEN RECEPTOR CELL LINE -







Product name: hAR-tGFP / HEK293 cell line

Ec_{50} Testosterone: 2 x 10^{-10} M

Z´: 0.71+/- 0.03

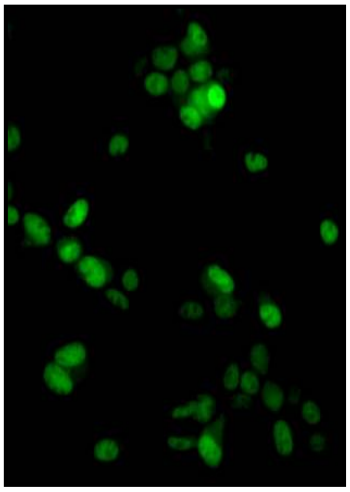
VAT No. ESB95481909

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

REF: P20113

tGFP-hAR NUCLEAR TRANSLOCATION ASSAY

HUMAN tGFP ANDROGEN RECEPTOR CELL LINE



Product Name: tGFP-hAR / HEK293

Official Full Name: Androgen receptor

DNA Accesion Number: GenBank BC132975

Host Cell: HEK293

Format: Cryopreserved vials

References:

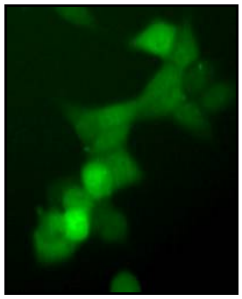
- ***P20113:*** 2 vials of 3 x 10^6 proliferative cells
- ***P20113-DA***: 1 vial of 2.5 x 10^6 division-arrested cells

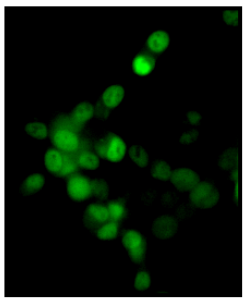
Storage: Liquid Nitrogen

Assay Briefly description

tGFP-hAR/HEK293 contains HEK293 cells stably expressing human Androgen Receptor (AR) tagged with tGFP.

Innoprot's AR Nuclear Translocation Assay kit has been designed to assay compounds or analyze stimuli for their ability to modulate androgen receptor, following nuclear translocation process and quantifying the fluorescence distribution inside the cells.





This highly reproducible assay allows monitoring androgen receptor nuclear translocation in High Content Analysis and fluorescence microscope applications.

Background

Androgen receptor, this gene is more than 90 kb long and codes for a protein that has 3 major functional domains: the N-terminal domain, DNA-binding domain, and androgen-binding domain. The protein functions as a steroid-hormone activated transcription factor. Upon binding the hormone ligand, the receptor dissociates from accessory proteins, translocates into the nucleus, dimerizes, and then stimulates transcription of androgen responsive genes. This gene contains 2 polymorphic trinucleotide repeat segments that encode polyglutamine and polyglycine tracts in the N-terminal transactivation domain of its protein. Expansion of the polyglutamine tract causes spinal bulbar muscular atrophy (Kennedy disease). Mutations in this gene are also associated with complete androgen insensitivity (CAIS). Two alternatively spliced variants encoding distinct isoforms have been described.

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

Applications

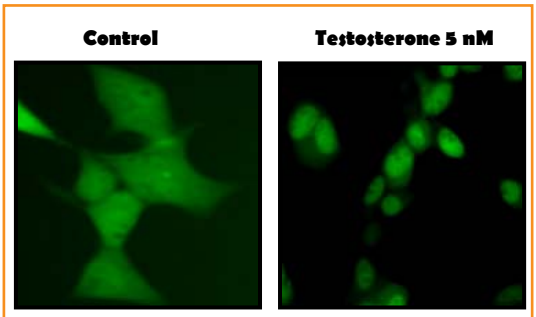
- Nuclear Trafficking assays
- Binding assays for AR
- Cellular Translocation Monitoring

Material Provided

- **P20113**: 2 vials of 3 x 10^6 proliferative cells
- **P20113-DA**: 1 vial of 2.5 x 10^6 division-arrested cells

Trafficking of tGFP-hAR

In the absence of testosterone, androgen receptor is predominantly diffused through the cytoplasm. When testosterone binds to AR, the receptor translocates and accumulates into the cell nucleus. The fusion proteins tGFP-hAR can be detected in live cells using an epifluorescence microscope.



Fluorescent hAR diffused through the cytoplasm

Fluorescent hAR accumulated into the cell nucleus

Assay Details

HEK293 cells stably expressing human androgen receptor tagged in the N-terminus with tGFP were stimulated with different concentrations of testosterone during 16 hours. After that, the receptor translocated and the fluorescence accumulated in the cell nucleus was detected by using image analysis algorithms.

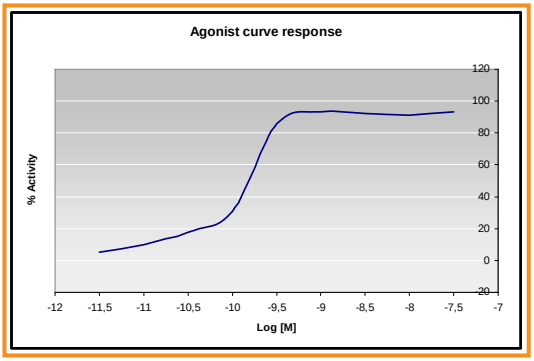


Fig.1. Testosterone concentrations response in the hAR-tGFP nuclear translocation assay. Cells were treated with 4 log dilution series (n=4). The Ec50 for the testosterone was 0.2 nM after a treatment of 16h with agonist.

% Activity was calculated relative to positive (1uM). This hAR-tGFP nuclear translocation assay was validated with an average of **Z'= 0.71+/- 0.03 for High Content Screening**.

Use Restriction

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