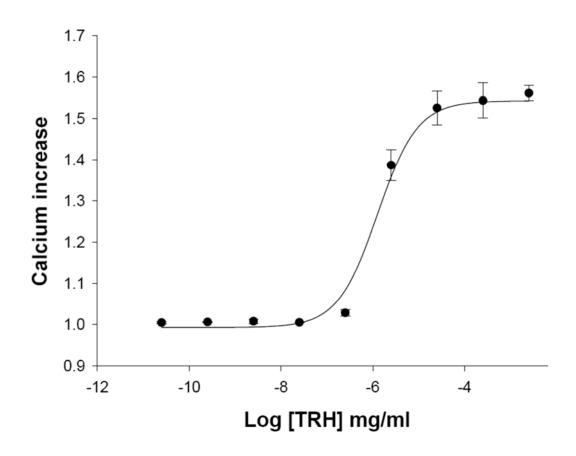


HiTSeeker CELL LINES (LABEL-FREE GPCRS)

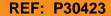
- THYROTROPIN-RELEASING HORMONE RECEPTOR (TRH1) CELL LINE -



Product name: TRH1 (TRHR) /U2OS cell line

Ec₅₀ TRH: 1.26x10⁻⁶ mg/ml

Z′: 0.89+/- 0.02





- THYROTROPIN-RELEASING HORMONE RECEPTOR (TRH1) CELL LINE -

Product Name: TRH1/U2OS

Official Full Name: Thyrotropin-releasing hormone receptor

DNA Accession Number: GenBank: AY493373

Host Cell: U2OS

Format: 2 cryopreserved vials

Resistance: Puromycin

Size: P30402: 2 vials of 3 x 10⁶ proliferative cells

P30402-DA: 1 vial of 2.5x106 division-arrested cells

Storage: Liquid Nitrogen

🕸 Assay Briefly description

Each vial of HiTSeeker TRH1 contains U2OS cells stably expressing human Thyrotropin-releasing hormone receptor (TRH1) with no tag.

HiTSeeker TRH1 cell line has been designed to assay compounds or analyze their capability to modulate Thyrotropin-releasing hormone receptor. When the agonist binds to TRH1 a G protein is activated, which in turn, triggers a cellular response mediated by second messengers (Calcium).

This cell line has been validated measuring calcium increase in the cytosol. The high reproducibility of this assay allows monitoring TRH1 activation process in High Throughput Screening.

🔊 About TRH1

The thyrotropin-releasing hormone receptor (TRHR) is a G protein-coupled receptor which binds the tripeptide thyrotropin releasing hormone.

Thyrotropin-releasing hormone (TRH), is a, tripeptidal hormone, produced by the hypothalamus, that stimulates the release of TSH (thyroid-stimulating hormone) and prolactin from the anterior pituitary.

TRH receptor can be a good target to test

TRH receptor can be a good target to test thyroid disorders.



Assay Characterization

Our expression plasmid contains the coding sequence of human TRH1 protein. Our plasmid was transfected in U2OS cells. Resistant clones were obtained by limit dilution and receptor gene expression was tested by RT-PCR using GAPDH as internal control (Fig.1).



Fig.1.TRH1 and GAPDH housekeeping gene RT-PCR.

🔊 Validation of TRH1 cell line

Calcium assay (Ec50 = 1.26×10^{-6} mg/ml)

A typical fluorescent calcium assay was performed using Fura-2/AM ratiometric. Calcium increase inside the cell was measured using the ratio of the fluorescence from Fura2 bound and not bound to the ion. Image acquisition was performed using a "BD Pathway 855" High-Content Bioimager from BD Biosciences.

Cells were incubated with Fura2-AM and treated with increasing TRH concentrations.

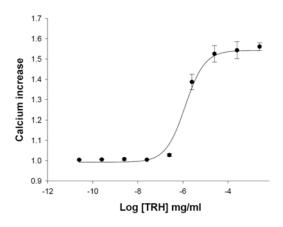


Fig.2. TRH1 dose response in calcium assay. Cells were treated with TRH concentrations ranging from o to 2.5 mg/ml, n=6. The EC50 for TRH was ~1.26x10° mg/ml. The calcium assay was validated with a Z′= 0.89+/- 0.02 for High Content Screening.