

# Human TGF $\beta$ (types I/II) Reporter Assay System

The TGF $\beta$  assay uses proprietary human cells that provide constitutive expression of the Human type I and type II Transforming Growth Factor beta Receptors (TGF $\beta$  I/II), both of which are transmembrane serine/threonine kinase receptors. Receptor activation results when TGF $\beta$  binds to RII, which then phosphorylates and forms a heterodimer complex with Ri. The mechanisms of TGF $\beta$ -RI/RII activation and ensuing signal transduction cascade have been well studied and involve the phosphorylation and interplay of a variety of Smad regulatory proteins and transcription factors. Additionally, cross-talk between the activate TGF $\beta$  and NF- $\kappa$ B signal transduction pathways have been characterized.

INDIGO's Reporter Cells include the luciferase reporter gene functionally linked to tandem TGF $\beta$  Response Sequences (TRS) derived from hthe human plasminogen activator inhibitor-1 (PAI-1) promoter, a well-characterized TGF $\beta$  responsive target gene. The TRS sequences are readily bound by activated dimeric Smad3/Smad4 to initiate formation of a transcription complex. Quantifying changes in luciferase activity in drug-treated cells versus untreated (or vehicle-treated) reporter cells provides a sensitive surrogate measure of drug-induced changes in TGF $\beta$  activity.

The principal application of this assay is in the screening of compounds / drug candidates to quantify any functional activity, either agonist or antagonist, that they may exert against the human TGF $\beta$  receptor.

## Ordering Information

[Order Online »](#)

NGO-IB12001-0032	3x32 assays
NGO-IB12001-0096	96 wells
NGO-IB12002-0384	384 wells

## Manuals, SDS & CofA

[View Online »](#)

## Handling & Storage

Shipping                      Dry Ice

**Regulatory Status**    RUO - Research Use Only

## Product Details

**Alternative Name**            Transforming Growth Factor  $\beta$

**Contents**                      INDIGO's TGF $\beta$  assay kit provides the convenience of an all-inclusive cell-based assay system. In addition the the TGF $\beta$  Reporter Cells, provided are two optimized media for use in recovering the cryopreserved cells and for diluting test samples. Also included is the reference agonist TGF- $\beta$ 1, Luciferase Detection Reagents, and a cell culture-ready assay plate.



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