

Human TGF beta 2 protein, His tag (active)

Cat. No. GTX00211-pro

Applications Functional Assay

Species Human

Package

10 µg

Applications

Application Note

Transforming growth factor beta (TGF- β) is a multifunctional cytokine belonging to the transforming growth factor superfamily. The TGF- β superfamily includes endogenous growth inhibiting proteins; an increase in expression of TGF- β often correlates with the malignancy of many cancers and a defect in the cellular growth inhibition response to TGF- β . Its immunosuppressive functions then come to dominate, contributing to oncogenesis. To test the effect of TGF- β on inhibit HGF-dependent proliferation, HepG2 cells were seeded into triplicate wells of 96-well plates at a density of 2000 cells/well and allowed to attach, replaced with serum-free overnight, then the medium was replaced with 2% serum standard DMEM including 1 ng/ml HGF prior to the addition of various concentrations of recombinant human TGF- β . After incubated for 96h, cells were observed by inverted microscope and cell proliferation was measured by Cell Counting Kit-8 (CCK-8). Briefly, 10 µl of CCK-8 solution was added to each well of the plate, then the absorbance at 450nm was measured using a microplate reader after incubating the plate for 1-4 hours at 37°C. The inhibitory effect of TGF- β on HGF-dependent proliferation of HepG2 cells observed by inverted microscope. Cell viability was assessed by CCK-8 assay after incubation with recombinant TGF- β for 96h. And TGF- β significantly decreased cell viability of HepG2 cells.

Transforming growth factor-beta 2 (TGFb2) is a secreted protein known as a cytokine that performs many cellular functions and has a vital role during embryonic development. It is an extracellular glycosylated protein. It is known to suppress the effects of interleukin dependent T-cell tumors. There are two named isoforms of this protein, created by alternative splicing of the same gene. Besides, Amyloid Precursor Protein (APP) has been identified as an interactor of TGFb2, thus a binding ELISA assay was conducted to detect the interaction of recombinant human TGFb2 and recombinant human APP. Briefly, TGFb2 were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100 µl were then transferred to APP-coated microtiter wells and incubated for 2h at 37°C. Wells were washed with PBST and incubated for 1h with anti-TGFb2 pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody, wells were aspirated and washed 3 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37°C. Finally, add 50µL stop solution to the wells and read at 450nm immediately. The binding activity of TGFb2 and APP was in a dose dependent manner.

Observed MW (kDa) 17 kDa.

Properties

Form Lyophilized powder

Buffer Reconstitute with 20mM Tris and 150mM NaCl to 0.1-1.0mg/ml. Do not vortex. Lyophilized from 20mM Tris, 150mM NaCl, 1mM EDTA, 1mM DTT, 0.01% SKL, 5% Trehalose.

Preservative ProClin 300

Storage For short-term storage (1-2 weeks), store at 4°C. For long-term storage, store at -20°C or below. After reconstitution, keep as concentrated solution. Avoid freeze-thaw cycles.

Region/Sequence N-terminal His-Tag; Ser303~Glu414 (NP_001129071.1)

Expression System E. coli

Purity > 90%

Endotoxin < 1 EU/µg



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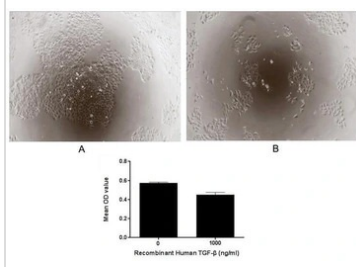
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Conjugation

Unconjugated

Note

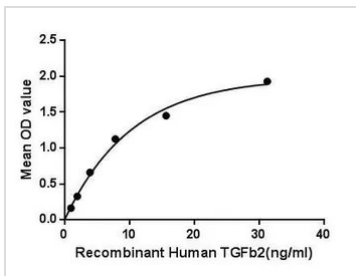
For laboratory use only. Not for any clinical, therapeutic, or diagnostic use in humans or animals. Not for animal or human consumption.

DATA IMAGES

GTx00211-pro Functional Assay Image

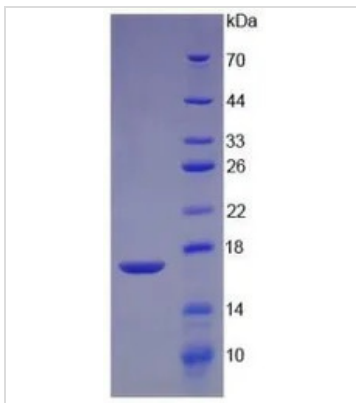
The inhibition effect of GTx00211-pro Human TGF beta 2 protein (active) on HGF-dependent proliferation. Cell viability was measured by Cell Counting Kit-8 (CCK-8).

(A) Unstimulated HepG2 cells cultured in DMEM for 96hrs.

(B) HepG2 cells cultured in DMEM, stimulated with 1000 ng/ml TGF-beta for 96hrs.


GTx00211-pro Functional Assay Image

Functional ELISA analysis of GTx00211-pro Human TGF beta 2 protein (active) which can bind immobilized APP protein.


GTx00211-pro Image

SDS-PAGE analysis of GTx00211-pro Human TGF beta 2 protein (active).


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