Biotin Conjugated Anti-TGF beta 1 Antibody [PSH15-22] - Detector

HA723727B

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	ELISA(Det), ELISA
Clone number:	PSH15-22

Description: Transforming growth factor beta 1 or TGF-β1 is a polypeptide member of the transforming growth factor beta superfamily of cytokines. It is a secreted protein that performs many cellular functions, including the control of cell growth, cell proliferation, cell differentiation, and apoptosis. In humans, TGF-β1 is encoded by the TGFB1 gene. TGF-β is a multifunctional set of peptides that controls proliferation, differentiation, and other functions in many cell types. TGF-β acts synergistically with transforming growth factor-alpha (TGF-α) in inducing transformation. It also acts as a negative autocrine growth factor. Dysregulation of TGF-β activation and signaling may result in apoptosis. Many cells synthesize TGF-β and almost all of them have specific receptors for this peptide. TGF-β1, TGF-β2, and TGF-β3 all function through the same receptor signaling systems. TGF-β1 was first identified in human platelets as a protein with a molecular mass of 25 kilodaltons with a potential role in wound healing. It was later characterized as a large protein precursor (containing 390 amino acids) that was proteolytically processed to produce a mature peptide of 112 amino acids. TGF-β1 plays an important role in controlling the immune system, and shows different activities on different types of cell, or cells at different developmental stages. Most immune cells (or leukocytes) secrete TGF-β1.

Conjugate:	Biotin-conjugated
Immunogen:	Recombinant protein within Human TGF beta 1 aa 279-390.
Positive control:	Recombinant Human TGF beta 1 protein.
Subcellular location:	Extracellular matrix, Secreted.
Database links:	SwissProt: P01137 Human | P04202 Mouse | P17246 Rat
Recommended Dilutions:	
ELISA(Det)	Use at an assay dependent concentration. Can be paired for Sandwich ELISA with Rabbit monoclonal [PSH15-21] to TGF beta 1 antibody (Capture) (HA723725). The reference range value is 156-20,000 pg/mL.
ELISA	Use at an assay dependent concentration.
Storage Buffer:	PBS (pH7.4), 0.1% BSA, 40% Glycerol. Preservative: 0.05% ProClin300.
Storage Instruction:	Shipped at 4℃. Store at +4℃ short term (1-2 weeks). It is recommended to aliquot into single-use upon delivery. Store at -20℃ long term.
Purity:	Protein A affinity purified.

Images

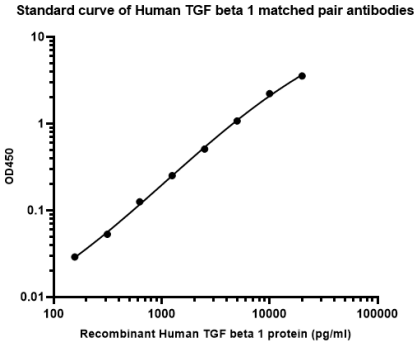

Fig1: Sandwich ELISA analysis of Human TGF beta 1 matched pair antibodies

Capture: HA723725, TGF beta 1 Rabbit mAb [PSH15-21]
Detector: HA723726, TGF beta 1 Rabbit mAb [PSH15-22]

Elisa assay was performed by coating wells of a 96-well plate with 100 µl per well of capture antibody (HA723725) diluted in carbonate/bicarbonate buffer, at a concentration of 5ug/ml overnight at 4℃. Wells of the plate were washed, blocked with 150 µl 0.05% tween-20 1% BSA blocking buffer, and incubated with serial diluted Recombinant Human TGF beta 1 protein starting from 20000 pg/ml to 0 pg/ml and detect antibody (HA723726, Biotin, 0.2 µg/ml) for 1 hour at 30℃ with shaking. Then the plate was washed and incubated with 100 µl per well of SA-HRP for 0.5 hour at 30℃ with shaking. Detection was performed using an Ultra TMB Substrate for 10 minutes at room temperature in the dark. The reaction was stopped with sulfuric acid and absorbances were read on a spectrophotometer at 450 nm.

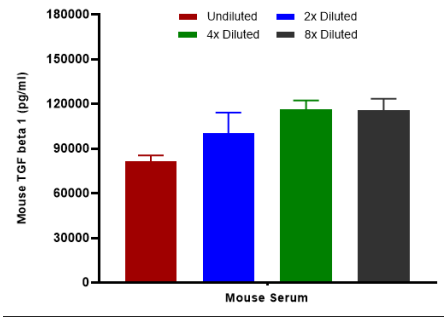

Fig2: Interpolated concentrations of native TGF beta 1 in mouse samples.

Capture: HA723725, TGF beta 1 Rabbit mAb [PSH15-21]
Detector: HA723726, TGF beta 1 Rabbit mAb [PSH15-22]

Interpolated concentration of native TGF beta 1 was measured in duplicate at different sample concentrations. The interpolated dilution factor corrected values were plotted (mean +/- SD, n=2). The mean TGF beta 1 concentration was determined to be 103 ng/mL in mouse serum.

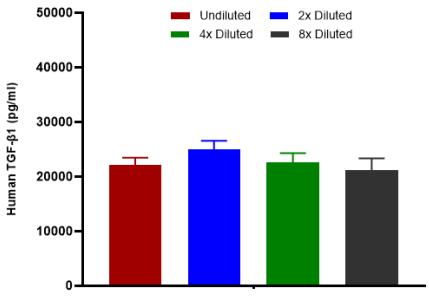

Fig3: Interpolated concentrations of spiked TGF beta 1 in cell culture media samples.

Capture: HA723725, TGF beta 1 Rabbit mAb [PSH15-21]
Detector: HA723726, TGF beta 1 Rabbit mAb [PSH15-22]

The concentrations of TGF beta 1 were measured in duplicates, interpolated from the TGF beta 1 standard curves and corrected for sample dilution. Undiluted samples are as follows: cell culture media 50%. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2).

Background References

1. Takahara T. et. al.TGFB1 mRNA expression is associated with poor prognosis and specific features of inflammation in ccRCC. Virchows Arch. 2022 Feb
2. Abdel Mouti M. et. al. TGFB1/INHBA Homodimer/Nodal-SMAD2/3 Signaling Network: A Pivotal Molecular Target in PDAC Treatment. Mol Ther. 2021 Mar