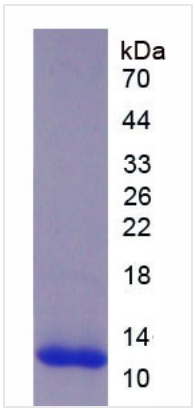
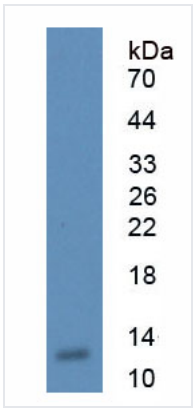
Transforming Growth Factor Beta 2 (TGFb2) Active Protein

PRODUCT OVERVIEW

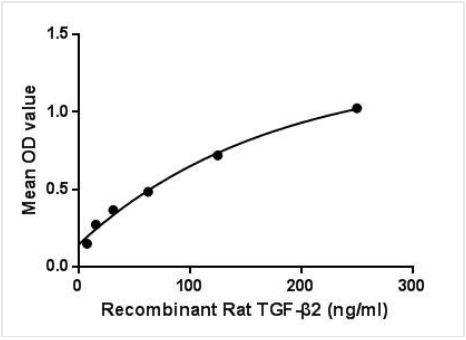
Product Name	Transforming Growth Factor Beta 2 (TGFb2), Active Protein
Full Product Name	Active Transforming Growth Factor Beta 2 (TGFb2)
Product Gene Name	TGFb2 active protein
Product Synonym Names	TGF-B2; TGF-Beta2; G-TSF; LAP; Cetermin; Polyergin; Latency-associated peptide; BSC-1 cell growth inhibitor; Glioblastoma-derived T-cell suppressor factor
Form/Format	Freeze-dried powder 20mM Tris, 150mM NaCl, pH8.0, containing 1mM EDTA, 1mM DTT, 0.01% SKL, 5% Trehalose and Proclin300.
Purity/Purification	>97%
Preparation and Storage	Store at 2-8 degree C for one month. Aliquot and store at -80 degree C for 12 months. Avoid repeated freeze/thaw cycles. Stability: The thermal stability is described by the loss rate. The loss rate was determined by accelerated thermal degradation test, that is, incubate the protein at 37 degree C for 48h, and no obvious degradation and precipitation were observed. The loss rate is less than 5% within the expiration date under appropriate storage condition.
Molecular Weight	Predicted Molecular Mass: 13.9kDa Accurate Molecular Mass: 12kDa
Sequence Positions	Ala331~Ser442
3D Structure	ModBase 3D Structure for Q07257
Supply Chain Verification	Manufactured in a lab with traceable raw materials. Bulk orders can typically be prepared to the customer's specifications, please inquire.
Active Protein Note	Protein activity can be an ambiguous term. Please refer to the data sheet or inquire with Technical Support to determine the definition of activity for this product.
Species	Rat
Tag	N-terminal His Tag
Isoelectric Point	6.7
Reconstitution	Reconstitute in 20mM Tris, 150mM NaCl (pH8.0) to a concentration of 0.1-1.0 mg/mL. Do not vortex.
Product Categories/Family for TGFb2 active protein	Cytokine; Infection immunity
ISO Certification	Manufactured in an ISO 9001:2015 and ISO 13485:2016 Certified Laboratory.
Applications Tested/Suitable for TGFb2 active protein	Cell Culture, Activity Assays
Related Product Information for TGFb2 active protein	MBS2122300 is an active protein targeting TGFb2. Also known as Active Transforming Growth Factor Beta 2 (TGFb2).
Other Notes	Small volumes of TGFb2 active protein vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.



SDS-Page of TGFb2 active protein
Figure. SDS-PAGE



Western Blot (WB) of TGFb2 active protein
Figure. Western Blot



Biological Activity Testing of TGFb2 active protein
Transforming growth factor-beta 2 (TGF-2) is a secreted protein known as a cytokine that performs many cellular functions and has a vital role during embryonic development (alternative names: Glioblastoma-derived T-cell suppressor factor, G-TSF, BSC-1 cell growth inhibitor, Polyergin, Cetermin). It is an extracellular glycosylated protein. It is known to suppress the effects of interleukin dependent T-cell tumors. Besides, Vitronectin (VTN) has been identified as an interactor of TGF-2, thus a binding ELISA assay was conducted to detect the interaction of recombinant rat TGF-2 and recombinant rat VTN. Briefly, TGF-2 were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100L were then transferred to VTN-coated microtiter wells and incubated for 2h at 37. Wells were washed with PBST and incubated for 1h with anti-TGF-2 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. Finally, add 50uL stop solution to the wells and read at 450nm immediately. The binding activity of TGF-2 and VTN was shown in Figure 1, and this effect was in a dose dependent manner.Figure. The binding activity of TGF-2 with VTN.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for TGFb2. It may not necessarily be applicable to this product.

NCBI GI #	20981713
NCBI GeneID	81809
NCBI Accession #	Q07257.2
UniProt Primary Accession #	Q07257
UniProt Related Accession #	Q07257
NCBI Official Full Name	Transforming growth factor beta-2 proprotein
NCBI Official Synonym Full Names	transforming growth factor, beta 2
NCBI Official Symbol	Tgfb2
NCBI Official Synonym Symbols	TGF-B2

UniProt Protein Name	Transforming growth factor beta-2
Protein Family	Transforming growth factor
UniProt Gene Name	Tgfb2
UniProt Synonym Gene Names	TGF-beta-2; LAP
UniProt Entry Name	TGFB2_RAT
NCBI Protein Information	transforming growth factor beta-2 proprotein; transforming growth factor beta-2
NCBI Summary for TGFb2	binds the transforming growth factor-beta receptor; plays a role in regulation of cell growth and proliferation; may be involved in mesenchymal-epithelial cell interactions during development [RGD, Feb 2006]
UniProt Comments for TGFb2	TGFB2: TGF-beta 2 has suppressive effects on interleukin-2 dependent T-cell growth. Homodimer; disulfide-linked. Heterodimers with TGFB1 and with TGFB3 have been found in bone. Interacts with the serine proteases, HTRA1 and HTRA3. Interacts with ASPN. Belongs to the TGF-beta family. 2 isoforms of the human protein are produced by alternative splicing. Protein type: Cell development/differentiation; Motility/polarity/chemotaxis; Secreted; Secreted, signal peptide Cellular Component: axon; basement membrane; cell soma; cell surface; cytoplasm; endosome; extracellular matrix; extracellular region; extracellular space; secretory granule; trans-Golgi network Molecular Function: beta-amyloid binding; cytokine activity; protein heterodimerization activity; protein homodimerization activity; protein N-terminus binding; punt binding; receptor binding; receptor signaling protein serine/threonine kinase activity; transforming growth factor beta receptor binding Biological Process: activation of protein kinase activity; aging; axon guidance; blood vessel development; blood vessel remodeling; cardiac muscle cell proliferation; cardioblast differentiation; cartilage condensation; cell cycle arrest; cell death; cell development; cell migration; cell morphogenesis; collagen fibril organization; dopamine biosynthetic process; embryonic gut development; embryonic limb morphogenesis; embryonic neurocranium morphogenesis; epithelial to mesenchymal transition; extracellular matrix organization and biogenesis; eye development; female pregnancy; glial cell migration; gut development; hair follicle development; hair follicle morphogenesis; heart development; heart morphogenesis; hemopoiesis; hindbrain development; inner ear development; intercellular junction assembly and maintenance; kidney development; lung development; male gonad development; negative regulation of apoptosis; negative regulation of cell growth; negative regulation of cell proliferation; negative regulation of epithelial cell proliferation; negative regulation of immune response; negative regulation of Ras protein signal transduction; negative regulation of release of sequestered calcium ion into cytosol; neural tube closure; neuron development; neuron fate commitment; neutrophil chemotaxis; palate development; pancreas development; positive regulation of apoptosis; positive regulation of cardioblast differentiation; positive regulation of catagen; positive regulation of cell adhesion mediated by integrin; positive regulation of cell cycle; positive regulation of cell growth; positive regulation of cell migration; positive regulation of cell proliferation; positive regulation of heart contraction; positive regulation of immune response; positive regulation of integrin biosynthetic process; positive regulation of neuron apoptosis; positive regulation of ossification; positive regulation of phosphoinositide 3-kinase cascade; positive regulation of protein secretion; positive regulation of stress-activated MAPK cascade; protein amino acid phosphorylation; regulation of actin cytoskeleton organization and biogenesis; regulation of apoptosis; regulation of cell growth; regulation of cell proliferation; regulation of MAPKKK cascade; regulation of transforming growth factor-beta2 production; response to cold; response to cytokine stimulus; response to drug; response to estradiol stimulus; response to estrogen stimulus; response to hypoxia; response to organic nitrogen; response to progesterone stimulus; response to radiation; response to retinoic acid; response to vitamin D; response to wounding; salivary gland morphogenesis; skeletal development; skeletal muscle development; SMAD protein nuclear translocation; somatic stem cell division; thyroid gland development; transforming growth factor beta receptor signaling pathway; uterus development; wound healing
Research Articles on TGFb2	**1.** Betaglycan shedding serves a major role in TGF-beta2 signaling in Sertoli cells.
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