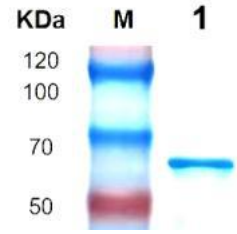
Human Tansforming Growth Factor beta 3 (TGFB3) Protein, Recombinant

I. For sale

Product name	Catalog #	Size
Human Tansforming Growth Factor beta 3 (TGFB3) Protein , Recombinant	P01T0005	10ug
		50ug
		100ug
		1mg

II. Product Description

Other Names	ARVD; LDS5; RNHF; ARVD1; TGF-beta3
Protein & NCBI Number	P10600, NM_001329939.2
Host	E.coli
Express Region	1-412aa
Protein Length	Total length of the protein（including Tag）
Protein Sequence	MKMHLQRALVVLALLNFATVSLSLSTCTTLDFGHIKKKRVEAIR GQILSKLRLTSPPEPTVMTHVPYQVLALYNSTRELLEEMHGEREEGCTQENTESEYYA KEIHKFDMIQGLAEHNELAVCPKGITSKVFRFNVSSVEKNRTNLFRAEFRVLRVPNPS SKRNEQRIELFQILRPDEHIAKQRYIGGKNLPTRGTAEWLSFDVTDTVREWLLRRESN LGLEISIHCPCHTFQPNGDILENIHEVMEIKFKGVDNEDDHGRGDLGRLKKQKDHHNP HLILMMIPPHRLDNPGQGGQRKKRALDTNYCFRNLEENCCVRPLYIDFRQDLGWKWVH EPKGYYANFCSGPCPYLRSADTTHSTVLGLYNTLNPEASASPCCVPQDLEPLTILYYV GRTPKVEQLSNMVVKSCKCS
Molecular Weight	about 47.3kDa
Fusion Tag	6×His-SUMO (N-terminus)
Purity	≥95% SDS-PAGE
Physical Property	liquid or lyophilized powder
Reconstitution	Storage solution: We recommend using PBS or a suitable solvent according to the experimental requirements to prepare 1mg/mL storage solution, aliquot and store at -20 °C. Working solution: According to the experimental requirement, dilute Storage solution. The working solution can be stored at 4°C for 2-3 weeks after dilution.
Storage & Stability	The shelf life of liquid form is 6 months stored at -20 °C /-80 °C. The shelf life of lyophilized form is 12 months stored at -20 °C /-80 °C.
Applications	Antibody preparation, immunoassay (ELISA, WB), subcellular localization and interaction protein identification, etc.
Lead Time	5 to 10 business days; 2 to 3 days for stock products
Figure. SDS-PAGE	



Bis-Tris (MOPS) SDS-PAGE

III. **Storage and Transportation**

Product is stable for up to twelve months from date of receipt under sterile conditions at -20℃ to -80℃. For optimal storage the lyophilized powder and protein stock solution should be aliquoted, and avoid freeze-thaw cycles.

IV. **Background**

The mature monomer of TGF- β 3 is composed of 112 amino acids, and the monomer part is at the carboxyl terminal of the precursor protein of TGF- β 3.The structure of TGF- β 3 in human body is a 25ku dimer, which is crosslinked by disulfide bonds between two monomers with the same structure and molecular weight of 12.5ku.TGF- β 3 signaling is mediated by membrane-bound serine/threonine kinase receptors that regulate the transcription of target genes through the Smads protein pathway, thereby mediating a series of TGF- β 3 biological responses.

The protein is involved in embryogenesis and cell differentiation, and may play a role in wound healing. Studies have shown that the TGF- β family is the most closely known cytokine associated with scar formation. The TGF- β family is a feedback inhibition system. Although the amino acid homology of TGF- β 1, TGF- β 2 and TGF- β 3 among each other is up to 70% , they play different roles in different cell types. TGF- β 1 and TGF- β 2 can promote collagen formation. while TGF- β 3 can antagonize TGF- β 1 and TGF- β 2, suggesting that TGF- β 1 and TGF- β 2 are related to scar hyperplasia and TGF- β 3 plays a role in scar regression.

Recent studies have shown that TGF- β 3, a member of the transforming growth factor family, can effectively promote the transformation process of adipose stem cells into chondrocytes, thereby promoting chondrogenesis.

V. **References**

1. Debao Li,Xiaofei Ma,Tianlan Zhao. Mechanism of TGF- β 3 promoting chondrogenesis in human fat stem cells. Biochem Biophys Res Commun. 2020;530(4):725-731
2. Hakvoort T,Altun V,van Zuijlen P P,de Boer W I,van Schadewij W A,van der Kwast T H. Transforming growth factor-beta(1), -beta(2), -beta(3), basic fibroblast growth factor and vascular endothelial

growth factor expression in keratinocytes of burn scars. European cytokine network,2000,11(2): 233-239.