


## Human TGF- $\beta$ 1 protein

Cat #: PRP100190

Size: 5 $\mu$ g/100 $\mu$ g/500 $\mu$ g

### Product Information

	<b>Product Name:</b> Human TGF- $\beta$ 1 protein		
<b>REF</b>	<b>Catalog Number:</b> PRP100190	<b>LOT</b>	<b>Lot Number:</b> Refer to product label
	<b>Purity:</b> > 95 % as determined by HPLC.		
	<b>Storage:</b> Store at -20°C		<b>Preparation method:</b> CHO Stable Cells
	<b>Shipping:</b> The product is shipped at ambient temperature.		

**Background:** TGF- $\beta$  1 is a member of the transforming growth factor  $\beta$  (TGF- $\beta$ ) family. The transforming growth factor- $\beta$  family of polypeptides are involved in the regulation of cellular processes, including cell division, differentiation, motility, adhesion and death. TGF- $\beta$  1 positively and negatively regulates many other growth factors. It inhibits the secretion and activity of many other cytokines including interferon- $\gamma$ , tumor necrosis factor-alpha and various interleukins. It can also decrease the expression levels of cytokine receptors. Meanwhile, TGF- $\beta$  1 also increases the expression of certain cytokines in T cells and promotes their proliferation, particularly if the cells are immature. TGF- $\beta$  1 also inhibits proliferation and stimulates apoptosis of B cells, and plays a role in controlling the expression of antibody, transferrin and MHC class II proteins on immature and mature B cells. As for myeloid cells, TGF- $\beta$  1 can inhibit their proliferation and prevent their production of reactive oxygen and nitrogen intermediates. However, as with other cell types, TGF- $\beta$  1 also has the opposite effect on cells of myeloid origin. TGF- $\beta$  1 is a multifunctional protein that controls proliferation, differentiation and other functions in many cell types. It plays an important role in bone remodeling as it is a potent stimulator of osteoblastic bone formation, causing chemotaxis, proliferation and differentiation in committed osteoblasts. Once cells lose their sensitivity to TGF- $\beta$ 1-mediated growth inhibition, autocrine TGF- $\beta$  signaling can promote tumorigenesis. Elevated levels of TGF- $\beta$ 1 are often observed in advanced carcinomas, and have been correlated with increased tumor invasiveness and disease progression.

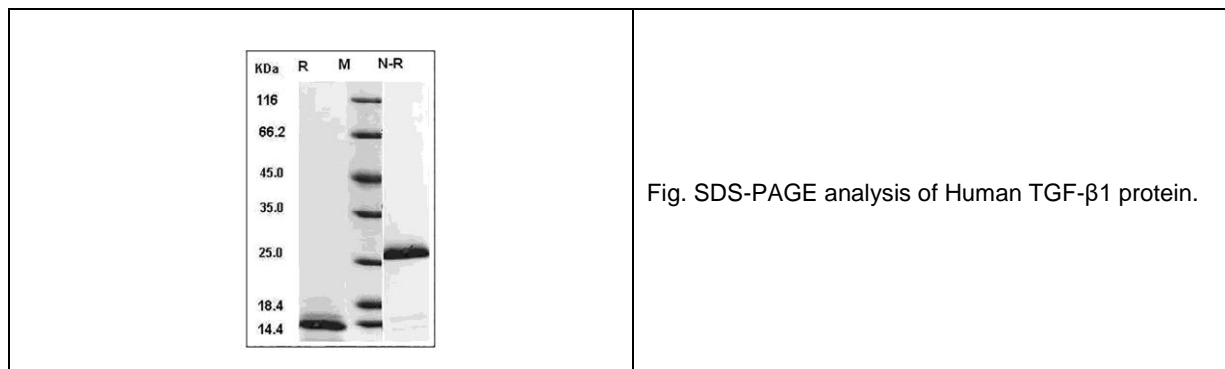
**Sequence:** Amino acid sequence derived from active form of human/rhesus/canine TGF $\beta$ 1 (NP\_000651.3) (Ala 279-Ser 390) was expressed and purified. Human, Rhesus and Canine TGF $\beta$ 1 sequences are identical.

**Protein length:** The recombinant human/rhesus/canine TGF $\beta$ 1 consists of 112 amino acids and has a calculated molecular mass of 12.8 kDa. It migrates as an approximately 13 & 26 kDa band in reduced and non-reduced SDS-PAGE respectively, corresponding to the monomer and homodimer.

**Formulation:** Liquid in from sterile 100mM GLY, 10mM NaCl, pH 3.0.

**Storage Instructions:** Lyophilized Human TGF- $\beta$ 1 protein product should be stored desiccated below -20°C. The protein should be stored at 4°C between 2-7 days and for future use below -20°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

**Usage notes:** Always centrifuge tubes before opening. It is recommended to dilute the protein using the PBS buffer or Protein storage solution to working concentration.



**Note:** The product listed herein is for research use only and is not intended for use in human or clinical diagnosis. Suggested applications of our products are not recommendations to use our products in violation of any patent or as a license. We cannot be responsible for patent infringements or other violations that may occur with the use of this product.