


## Human Latent TGF- $\beta$ 1 protein, His Tag

Cat #: PRP100188

Size: 50 $\mu$ g/500 $\mu$ g

### Product Information

	<b>Product Name:</b> Human Latent TGF- $\beta$ 1 protein, His Tag		
<b>REF</b>	<b>Catalog Number:</b> PRP100188	<b>LOT</b>	<b>Lot Number:</b> Refer to product label
	<b>Purity:</b> > 95 % as determined by SDS-PAGE		
	<b>Storage:</b> Store at -20°C		<b>Preparation method:</b> Human 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-beta1-mediated growth inhibition, autocrine TGF-beta signaling can promote tumorigenesis. Elevated levels of TGF-beta1 are often observed in advanced carcinomas, and have been correlated with increased tumor invasiveness and disease progression.

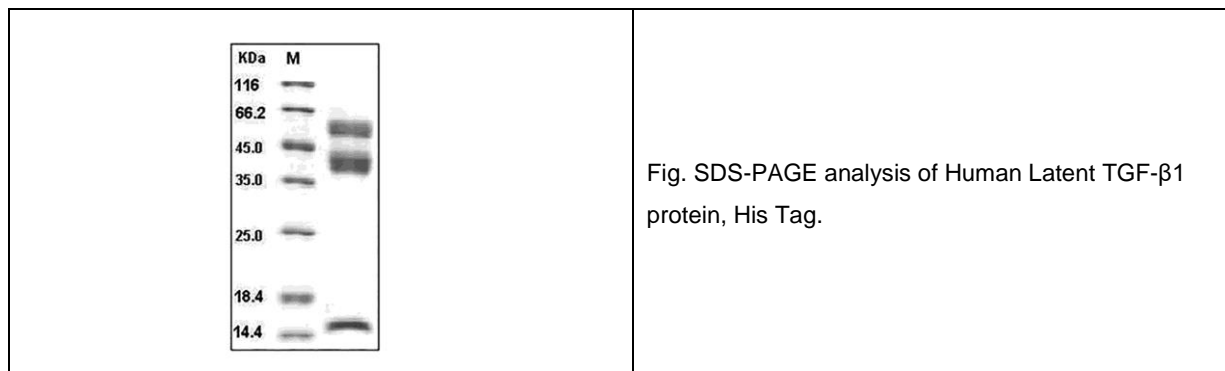
**Sequence:** Amino acid sequence derived from full length of human TGF $\beta$ 1 (NP\_000651.3) (Met 1-Ser 390) was fused with a C-terminal polyhistidine tag.

**Protein length:** The recombinant human latent TGF $\beta$ 1 consists of 370 amino acids and has a calculated molecular mass of 42.4 kDa. In SDS-PAGE under reducing conditions, the apparent molecular mass of rh TGF $\beta$ 1 is approximately 16, 38 and 55 kDa corresponding to mature TGF $\beta$ 1, LAP protein and inactive latent TGF $\beta$ 1 respectively due to glycosylation. In non-reduced SDS-PAGE, it migrates as an approximately 110 kDa protein consisting of a TGF $\beta$ 1 homodimer non-covalently linked to a LAP homodimer.

**Formulation:** Lyophilized from sterile PBS, pH 7.4.

**Storage Instructions:** Lyophilized Human Latent TGF- $\beta$ 1 protein, His Tag product should be stored desiccated below -18°C. Upon reconstitution, the protein should be stored at 4°C between 2-7 days and for future use below -18°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 reconstitute the lyophilized Human Latent TGF- $\beta$ 1 protein, His Tag in sterile ddH<sub>2</sub>O not less than 100 $\mu$ g/ml, which can then be further diluted to other aqueous solutions.



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