

## TGF beta 1 Protein, Human, Recombinant (Avi), Biotinylated

### General Information

Synonyms:	TGF-Beta-1;TGFB1;Transforming Growth Factor $\beta$ -1;Latency-Associated Peptide;TGF- $\beta$ -1; Transforming Growth Factor Beta-1;TGFB;LAP;TGF- $\beta$ 1
Protein Construction:	Ala279-Ser390
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P01137
Molecular Weight:	12-18 KDa (reducing condition)
AA Sequence:	Ala279-Ser390

### QC Testing

Biological Activity:	1. Measured by its ability to inhibit TGF-beta 1 activity on TF-1 human erythroleukemic cells. The ED50 for this effect is 137.37pg/ml. (Regularly tested) 2. Immobilized Biotinylated Human TGF-beta 1-Avi at 2 $\mu$ g/ml (100 $\mu$ l/well) can bind Human TGFBR2-Fc. The ED50 of Human TGFBR2-Fc is 9.47ng/ml. (Regularly tested)
Purity:	Greater than 95% as determined by reducing SDS-PAGE. (QC verified)
Endotoxin:	< 10 EU/mg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 $\mu$ m filter, containing 50 mM Glycine-HCl, 150 mM NaCl, pH2.5.

### Preparation and Storage

#### Reconstitution:

Reconstitute the lyophilized protein in distilled water. The product concentration should not be less than 100  $\mu$ g/ml. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

#### Stability & Storage:

Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

#### Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein Background

Transforming Growth Factor  $\beta$ -1 (TGF $\beta$ -1) is a secreted protein which belongs to the TGF- $\beta$  family. TGF $\beta$ -1 is abundantly expressed in bone, articular cartilage and chondrocytes and is increased in osteoarthritis (OA). TGF $\beta$ -1

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performs many cellular functions, including the control of cell growth, cell proliferation, cell differentiation and apoptosis. The precursor is cleaved into a latency-associated peptide (LAP) and a mature TGF $\beta$ -1 peptide. TGF $\beta$ -1 may also form heterodimers with other TGF $\beta$  family members. It has been found that TGF $\beta$ -1 is frequently upregulated in tumor cells. Mutations in this gene results in Camurati-Engelmann disease.

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