

**TGF- $\beta$ 1**  
**Catalog # PVGS1530****Specification**

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**TGF- $\beta$ 1 - Product Information**

Primary Accession [P01137](#)  
**Species**  
Human

**Sequence**  
Ala279-Ser390

**Purity**  
> 95% as analyzed by SDS-PAGE

**Endotoxin Level**  
< 0.2 EU/  $\mu$ g of protein by gel clotting method

**Biological Activity**  
ED<sub>50</sub> < 0.2 ng/ml, measured in ability to inhibit the mouse IL-4-dependent proliferation of HT-2 cells.

**Expression System**  
CHO

Formulation **Lyophilized from a 0.2  $\mu$ m filtered solution in 50 mM NaAc, 50 mM NaCl, pH 5.0.**

**Reconstitution**  
It is recommended that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute the lyophilized powder in ddH<sub>2</sub>O or 50 mM Citrate up to 100  $\mu$ g/ml.

**Storage & Stability**  
Upon receiving, this product remains stable for up to 6 months at lower than -70°C. Upon reconstitution, the product should be stable for up to 1 week at 4°C or up to 3 months at -20°C. For long term storage it is recommended that a carrier protein (example 0.1% BSA) be added. Avoid repeated freeze-thaw cycles.

**TGF- $\beta$ 1 - Additional Information**

**Gene ID** 7040

**Other Names**  
Transforming growth factor beta-1 proprotein, Latency-associated peptide, LAP, Transforming growth factor beta-1, TGF-beta-1, TGFB1 ([http://www.genenames.org/cgi-bin/gene\\_symbol\\_report?hgnc\\_id=11766](http://www.genenames.org/cgi-bin/gene_symbol_report?hgnc_id=11766)), TGFB

**Target Background**  
TGF- $\beta$ 1 (transforming growth factor beta 1) is one of three closely related mammalian members of

the large TGF- $\beta$ 1 superfamily that share a characteristic cystine knot structure. TGF- $\beta$ 1, -2 and -3 are highly pleiotropic cytokines that act as cellular switches to regulate processes such as immune function, proliferation and epithelial-mesenchymal transition. Each TGF- $\beta$  isoform has some non-redundant function; for TGF- $\beta$ 1, mice with targeted deletion show defects in hematopoiesis and endothelial differentiation and died of overwhelming inflammation. TGF- $\beta$ 1 signaling begins with high-affinity binding to a type II ser/thr kinase receptor termed TGF- $\beta$  RII. This receptor then phosphorylates and activates a second ser/thr kinase receptor, TGF- $\beta$  RI (also called activin receptor-like kinase (ALK)-5), or alternatively, ALK-1. This complex phosphorylates and activates Smad proteins that regulate transcription.

## **TGF- $\beta$ 1 - Protein Information**

**Name** TGFB1 ([HGNC:11766](#))

**Synonyms** TGFB

### **Function**

Transforming growth factor beta-1 proprotein: Precursor of the Latency-associated peptide (LAP) and Transforming growth factor beta-1 (TGF-beta-1) chains, which constitute the regulatory and active subunit of TGF-beta-1, respectively.

### **Cellular Location**

[Latency-associated peptide]: Secreted, extracellular space, extracellular matrix

### **Tissue Location**

Highly expressed in bone (PubMed:11746498, PubMed:17827158). Abundantly expressed in articular cartilage and chondrocytes and is increased in osteoarthritis (OA) (PubMed:11746498, PubMed:17827158). Colocalizes with ASPN in chondrocytes within OA lesions of articular cartilage (PubMed:17827158)

## **TGF- $\beta$ 1 - Protocols**

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

## **TGF- $\beta$ 1 - Images**