

Datasheet for ABIN1889382  
**TGFB1 ELISA Kit**



[Go to Product page](#)

**1** Image **8** Publications

## Overview

Quantity:	96 tests
Target:	TGFB1
Binding Specificity:	AA 30-278
Reactivity:	Human
Method Type:	Sandwich ELISA
Detection Range:	62.5-4000 pg/mL
Minimum Detection Limit:	62.5 pg/mL
Application:	ELISA

## Product Details

Purpose:	Sandwich High Sensitivity ELISA kit for Quantitative Detection of Human LAP(TGF-beta1)
Brand:	PicoKine™
Sample Type:	Cell Culture Supernatant, Serum, Plasma (heparin), Plasma (EDTA)
Analytical Method:	Quantitative
Detection Method:	Colorimetric
Immunogen:	Expression system for standard: sf21 Immunogen sequence: L30-R278
Specificity:	Expression system for standard: sf21 Immunogen sequence: L30-R278
Cross-Reactivity (Details):	There is no detectable cross-reactivity with other relevant proteins.

## Product Details

Sensitivity:	<10pg/mL
Material not included:	Microplate reader in standard size. Automated plate washer. Adjustable pipettes and pipette tips. Multichannel pipettes are recommended in the condition of large amount of samples in the detection. Clean tubes and Eppendorf tubes. Washing buffer (neutral PBS or TBS). Preparation of 0.01M TBS: Add 1.2g Tris, 8.5g NaCl

## Target Details

Target:	TGFB1
Alternative Name:	TGFB1 ( <a href="#">TGFB1 Products</a> )
Background:	<p>Protein Function: Multifunctional protein that controls proliferation, differentiation and other functions in many cell types. Many cells synthesize TGFB1 and have specific receptors for it. It positively and negatively regulates many other growth factors. 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. Can promote either T- helper 17 cells (Th17) or regulatory T-cells (Treg) lineage differentiation in a concentration-dependent manner. At high concentrations, leads to FOXP3-mediated suppression of RORC and down-regulation of IL-17 expression, favoring Treg cell development. At low concentrations in concert with IL-6 and IL-21, leads to expression of the IL-17 and IL-23 receptors, favoring differentiation to Th17 cells.</p> <p>Background: TGFbeta1 is secreted as a latent form, which consists of its mature form and a latency-associated peptide(beta1-LAP) in either the presence or the absence of additional latent TGF-beta1-binding protein. Processing and cleavage of the precursor protein between amino acids 278 and 279 results in the formation of LAP dimers and TGF beta dimers that then non-covalently associate with each other to form the small latent TGF beta complex. LAP is secreted and can be found in the extracellular matrix. In addition, LAP can also be expressed on platelets and activated regulatory T cells.</p> <p>Synonyms: Transforming growth factor beta-1,TGF-beta-1,Latency-associated peptide,LAP,TGFB1,TGFB,</p> <p>Full Gene Name: Transforming growth factor beta-1</p> <p>Cellular Localisation: Secreted, extracellular space, extracellular matrix.</p>
Gene ID:	7939
UniProt:	<a href="#">P01137</a>
Pathways:	<a href="#">EGFR Signaling Pathway</a> , <a href="#">Dopaminergic Neurogenesis</a> , <a href="#">Cellular Response to Molecule of</a>

## Target Details

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Bacterial Origin, Glycosaminoglycan Metabolic Process, Regulation of Leukocyte Mediated Immunity, Regulation of Muscle Cell Differentiation, Positive Regulation of Immune Effector Process, Cell-Cell Junction Organization, Production of Molecular Mediator of Immune Response, Ribonucleoside Biosynthetic Process, Skeletal Muscle Fiber Development, Regulation of Carbohydrate Metabolic Process, Protein targeting to Nucleus, Autophagy, Cancer Immune Checkpoints

## Application Details

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Application Notes:	Before using Kit, spin tubes and bring down all components to bottom of tube. Duplicate well assay was recommended for both standard and sample testing.
Comment:	<p>Sequence similarities: Belongs to the TGF-beta family.</p> <p>Tissue Specificity: Highly expressed in bone. Abundantly expressed in articular cartilage and chondrocytes and is increased in osteoarthritis (OA). Colocalizes with ASPN in chondrocytes within OA lesions of articular cartilage. .</p>
Plate:	Pre-coated
Protocol:	human LAP(TGF-beta1) ELISA Kit was based on standard sandwich enzyme-linked immune-sorbent assay technology. A monoclonal antibody from mouse specific for LAP(TGF-beta1) has been precoated onto 96-well plates. Standards(sf21, L30-R278) and test samples are added to the wells, a biotinylated detection polyclonal antibody from goat specific for LAP(TGF-beta1) is added subsequently and then followed by washing with PBS or TBS buffer. Avidin-Biotin-Peroxidase Complex was added and unbound conjugates were washed away with PBS or TBS buffer. HRP substrate TMB was used to visualize HRP enzymatic reaction. TMB was catalyzed by HRP to produce a blue color product that changed into yellow after adding acidic stop solution. The density of yellow is proportional to the human LAP(TGF-beta1) amount of sample captured in plate.
Assay Procedure:	Aliquot 0.1 mL per well of the 4000pg/mL, 2000pg/mL, 1000pg/mL, 500pg/mL, 250pg/mL, 125pg/mL, 62.5pg/mL human LAP(TGF-beta1) standard solutions into the precoated 96-well plate. Add 0.1 mL of the sample diluent buffer into the control well (Zero well). Add 0.1 mL of each properly diluted sample of human cell culture supernates, serum or plasma(heparin, EDTA) to each empty well. See "Sample Dilution Guideline" above for details. It is recommended that each human LAP(TGF-beta1) standard solution and each sample be measured in duplicate.
Assay Precision:	<ul style="list-style-type: none"><li>Sample 1: n=16, Mean(pg/ml): 347, Standard deviation: 13.88, CV(%): 4</li></ul>

## Application Details

- Sample 2: n=16, Mean(pg/ml): 1638, Standard deviation: 85.18, CV(%): 5.2
- Sample 3: n=16, Mean(pg/ml): 2586, Standard deviation: 163, CV(%): 6.3,
- Sample 1: n=24, Mean(pg/ml): 511, Standard deviation: 29.64, CV(%): 5.8
- Sample 2: n=24, Mean(pg/ml): 1825, Standard deviation: 100.4, CV(%): 5.5
- Sample 3: n=24, Mean(pg/ml): 3120, Standard deviation: 246.5, CV(%): 7.9

Restrictions: For Research Use only

## Handling

Handling Advice: Avoid multiple freeze-thaw cycles.

Storage: -20 °C, 4 °C

Storage Comment: Store at 4°C for 6 months, at -20°C for 12 months. Avoid multiple freeze-thaw cycles

Expiry Date: 12 months

## Publications

Product cited in: Gong, Wang, Yuan, Li, Gu, Zhao, Zhang, Jia, Feng, Liu: "Inhibition of Tumor Growth and Immunomodulatory Effects of Flavonoids and Scutebarbatines of Scutellaria barbata D. Don in Lewis-Bearing C57BL/6 Mice." in: **Evidence-based complementary and alternative medicine : eCAM**, Vol. 2015, pp. 630760, (2015) ([PubMed](#)).

Sharifi, Amani, Hajiani, Cheraghian: "Does vitamin D improve liver enzymes, oxidative stress, and inflammatory biomarkers in adults with non-alcoholic fatty liver disease? A randomized clinical trial." in: **Endocrine**, Vol. 47, Issue 1, pp. 70-80, (2014) ([PubMed](#)).

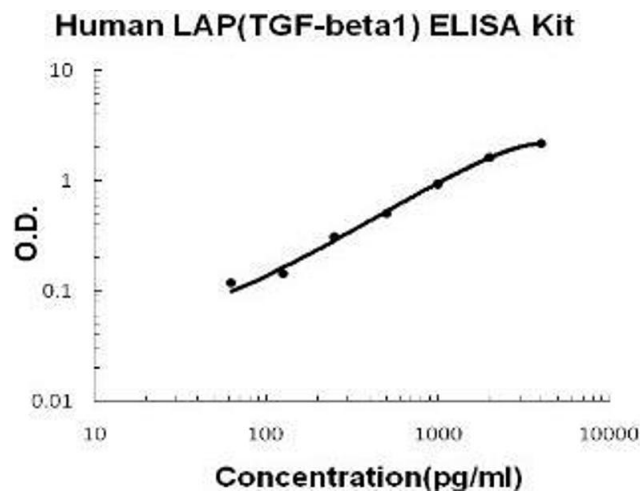
Chen, Qi, Feng, Wang, Bao, Wang, Xiang, Xie: "Neuroprotective effect of allicin against traumatic brain injury via Akt/endothelial nitric oxide synthase pathway-mediated anti-inflammatory and anti-oxidative activities." in: **Neurochemistry international**, Vol. 68, pp. 28-37, (2014) ([PubMed](#)).

Li, Kong, Zhang, Yang: "Long-term intake of sesamin improves left ventricular remodelling in spontaneously hypertensive rats." in: **Food & function**, Vol. 4, Issue 3, pp. 453-60, (2013) ([PubMed](#)).

Li, Yang, Ma, Li, Tu, Gao et al.: "Fabrication of poly(lactide-co-glycolide) scaffold filled with fibrin gel, mesenchymal stem cells, and poly(ethylene oxide)-b-poly(L-lysine)/TGF- $\beta$ 1 plasmid DNA complexes for cartilage restoration in ..." in: **Journal of biomedical materials research. Part A**,

Vol. 101, Issue 11, pp. 3097-108, (2013) ([PubMed](#)).

There are more publications referencing this product on: [Product page](#)



**ELISA**

**Image 1.** Human LAP(TGF-beta1) PicoKine ELISA Kit standard curve