

## Rabbit Anti-TGF beta 1 antibody

SL0086R

<b>Product Name</b>	TGF beta 1
<b>Chinese Name</b>	转化生长因子 $\beta$ 1/TGF $\beta$ 1/TGF- $\beta$ 1 抗体
<b>Alias</b>	CED; DPD1; TGF beta 1; TGF beta; TGF beta 1 protein; TGF-beta 1 protein; TGF-beta-1; TGF-beta-5; TGF-beta1; TGFB; Tgfb-1; tgfb1; TGFB1_HUMAN; TGFbeta; TGFbeta1; Transforming Growth Factor b1; Transforming Growth Factor beta 1; Transforming growth factor beta 1a; transforming growth factor beta-1; transforming growth factor, beta 1.
<b>Research Area</b>	Tumour Cardiovascular Signal transduction Stem cells Growth factors and hormones transcriptional regulatory factor cell factor Extracellular matrix
<b>Immunogen Species</b>	Rabbit
<b>Clonality</b>	Polyclonal
<b>React Species</b>	Human Mouse
<b>Applications</b>	WB=1:500-2000,ELISA=1:5000-10000 (Paraffin sections need antigen repair) not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
<b>Theoretical molecular weight</b>	12.8/44kDa
<b>Cellular localization</b>	Secretory protein
<b>Form</b>	Liquid
<b>Concentration</b>	1mg/ml
<b>immunogen</b>	KLH conjugated synthetic peptide derived from human TGF-Beta 1: 351-390/390
<b>Lsotype</b>	IgG
<b>Purification</b>	affinity purified by Protein A
<b>Buffer Solution</b>	Human,Mouse1M TBS(pH7.4) with 1% BSA, Human,Mouse3% Proclin300 and 50% Glycerol.
<b>Storage</b>	Shipped at 4°C. Store at -20 °C for one year. Avoid repeated freeze/thaw cycles.
<b>Attention</b>	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

## PubMed

### [PubMed](#)

This gene encodes a secreted ligand of the TGF-beta (transforming growth factor-beta) superfamily of proteins. Ligands of this family bind various TGF-beta receptors leading to recruitment and activation of SMAD family transcription factors that regulate gene expression. The encoded preproprotein is proteolytically processed to generate a latency-associated peptide (LAP) and a mature peptide, and is found in either a latent form composed of a mature peptide homodimer, a LAP homodimer, and a latent TGF-beta binding protein, or in an active form consisting solely of the mature peptide homodimer. The mature peptide may also form heterodimers with other TGFB family members. This encoded protein regulates cell proliferation, differentiation and growth, and can modulate expression and activation of other growth factors including interferon gamma and tumor necrosis factor alpha. This gene is frequently upregulated in tumor cells, and mutations in this gene result in Camurati-Engelmann disease. [provided by RefSeq, Aug 2016]

#### **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.

## Product Detail

#### **Subunit:**

Homodimer; disulfide-linked, or heterodimer with TGFB2. Secreted and stored as a biologically inactive form in the extracellular matrix in a 290 kDa complex (large latent TGF-beta1 complex) containing the TGFB1 homodimer, the latency-associated peptide (LAP), and the latent TGFB1 binding protein-1 (LTBP1). The complex without LTBP1 is known as the 'small latent TGF-beta1 complex'. Dissociation of the TGFB1 from LAP is required for growth factor activation and biological activity. Release of the large latent TGF-beta1 complex from the extracellular matrix is carried out by the matrix metalloproteinase MMP3 (By similarity). May interact with THSD4; this interaction may lead to sequestration by FBN1 microfibril assembly and attenuation of TGFB signaling. Interacts with the serine proteases, HTRA1 and HTRA3: the interaction with either inhibits TGFB1-mediated signaling. The HTRA protease activity is required for this inhibition (By similarity). Interacts with CD109, DPT and ASPN.

#### **Subcellular Location:**

Secreted, extracellular space, extracellular matrix.

#### **Tissue Specificity:**

Highly expressed in bone. Abundantly expressed in articular cartilage and chondrocytes and is increased in osteoarthritis (OA). Co-localizes with ASPN in chondrocytes within OA lesions of articular cartilage.

**Post-translational modifications:**

Glycosylated.

The precursor is cleaved into mature TGF-beta-1 and LAP, which remains non-covalently linked to mature TGF-beta-1 rendering it inactive.

**DISEASE:**

Defects in TGFB1 are the cause of Camurati-Engelmann disease (CE) [MIM:131300]; also known as progressive diaphyseal dysplasia 1 (DPD1). CE is an autosomal dominant disorder characterized by hyperostosis and sclerosis of the diaphyses of long bones. The disease typically presents in early childhood with pain, muscular weakness and waddling gait, and in some cases other features such as exophthalmos, facial paralysis, hearing difficulties and loss of vision.

**Similarity:**

Belongs to the TGF-beta family.

**SWISS:**

P01137

**Gene ID:**

7040

**Database links:**

[Entrez Gene: 7040](#) Human

[Entrez Gene: 21803](#) Mouse

[Entrez Gene: 59086](#) Rat

[Omim: 190180](#) Human

[SwissProt: P01137](#) Human

[SwissProt: P04202](#) Mouse

[SwissProt: P17246](#) Rat

[Unigene: 645227](#) Human

Growth factors and hormones ( Growth Factor and Hormones) TGF 是一种多效生长因子, 对 epithelial cells 增值有潜在抑制作用, 可抑制 Tumour 生长用于许多恶性 Tumour 如:胃癌、肺癌、膀胱癌、肾癌、前列腺癌、结肠癌等多种恶性 Tu 的研究。 TGFβ 超级家族由为数众多的生长的分化因子组成, 包括转移生长因

子  $\beta 1$ , 2 和 3(TGF  $\beta 1$ , TGF  $\beta 2$ , TGF  $\beta 3$ ); 胎盘生长因子(PTGF- $\beta$ ); 生长/分化因子(GDFs); 缪氏抑制物(MIS); 骨形态形成蛋白(BMPs); 交织细胞元神经生长因子(GDNF); 抑制素和活化素( $\alpha$ ,  $\beta$ -A,和  $\beta$ -C), Lefty 和 Nodal。 TGF 超级家族成员参与胚胎发育和成体组织体内平衡。TGF- $\beta 1$  抗体与 TGF- $\beta 2$  和 TGF- $\beta 3$  没有 React Species。与豚鼠有大部分交叉。



Sample:

Embryo (Mouse) Lysate at 40 ug

Cerebrum (Rat) Lysate at 40 ug

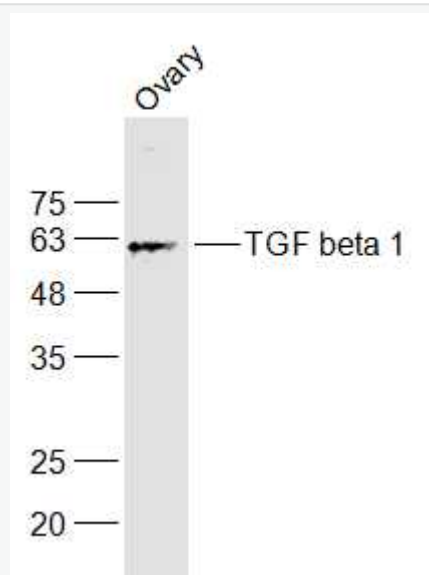
Primary: Anti-TGF beta 1 (SL0086R) at 1/1000 dilution

Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

Predicted band size: 12.8/44 kD

Observed band size: 59 kD

## Product Picture



Sample:

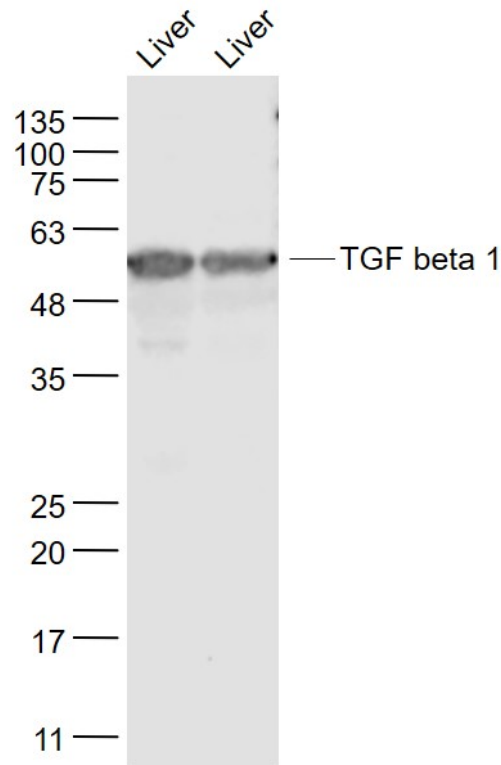
Ovary (Mouse) Lysate at 40 ug

Primary: Anti-TGF beta 1 (SL0086R) at 1/1000 dilution

Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

Predicted band size: 12.8/44 kD

Observed band size: 59 kD



Sample:

Liver (Mouse) Lysate at 40 ug

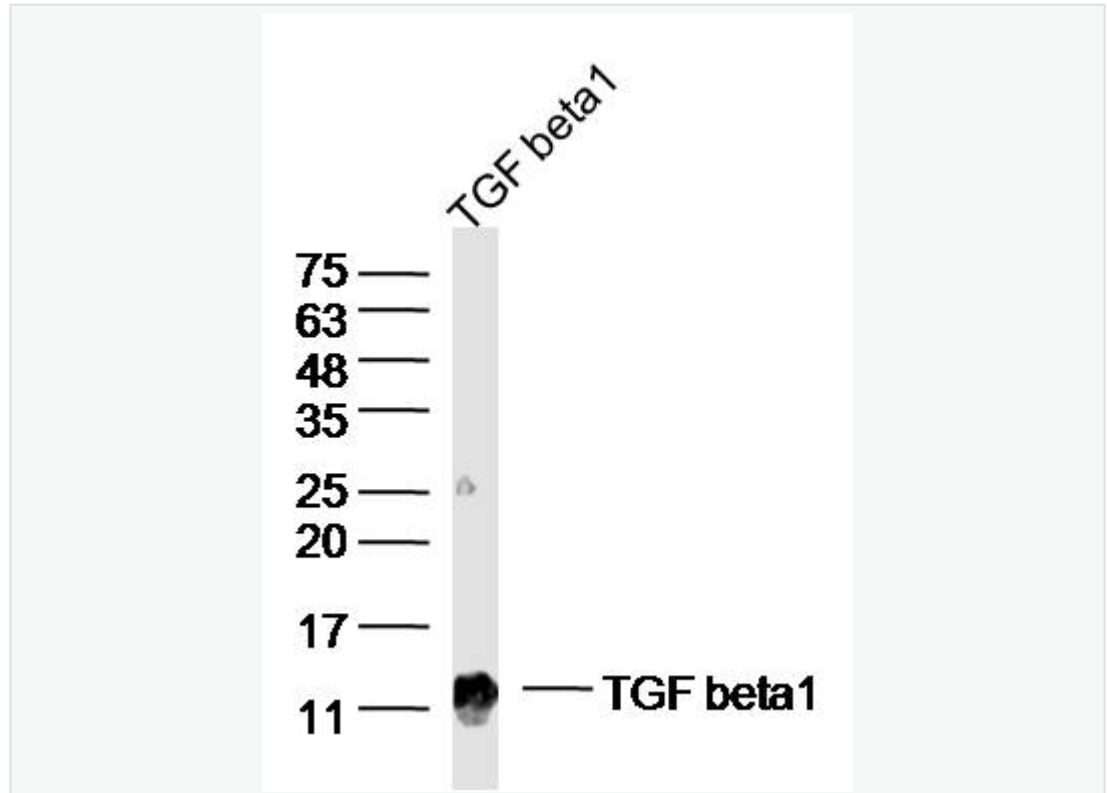
Liver (Rat) Lysate at 40 ug

Primary: Anti- TGF beta 1 (SL0086R) at 1/1000 dilution

Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

Predicted band size: 12.8/44 kD

Observed band size: 55 kD



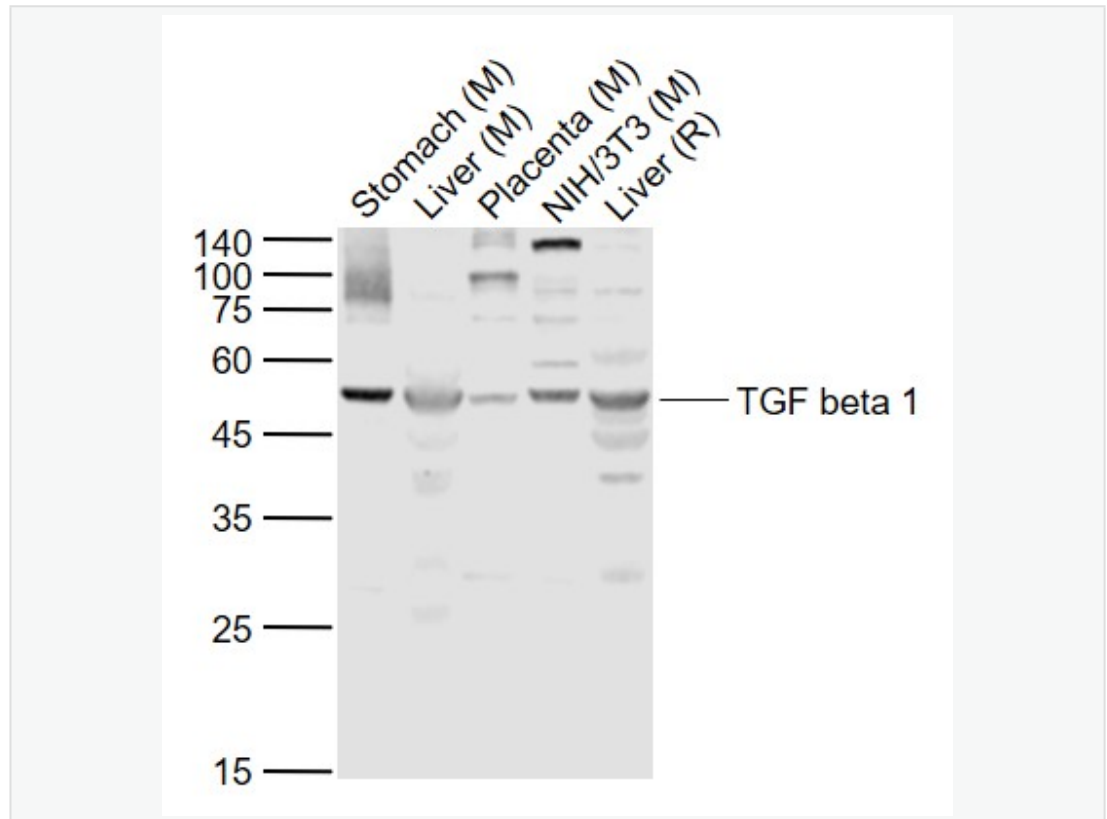
Sample:TGF beta1 recombinant protein (human) Lysate at 100ng

Primary: Anti- TGF beta1 (SL0086R) at 1/300 dilution

Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

Predicted band size: 12.8/44 kD

Observed band size: 12.8 kD



Sample:

Lane 1: Stomach (Mouse) Lysate at 40 ug

Lane 2: Liver (Mouse) Lysate at 40 ug

Lane 3: Placenta (Mouse) Lysate at 40 ug

Lane 4: NIH/3T3 (Mouse) Cell Lysate at 30 ug

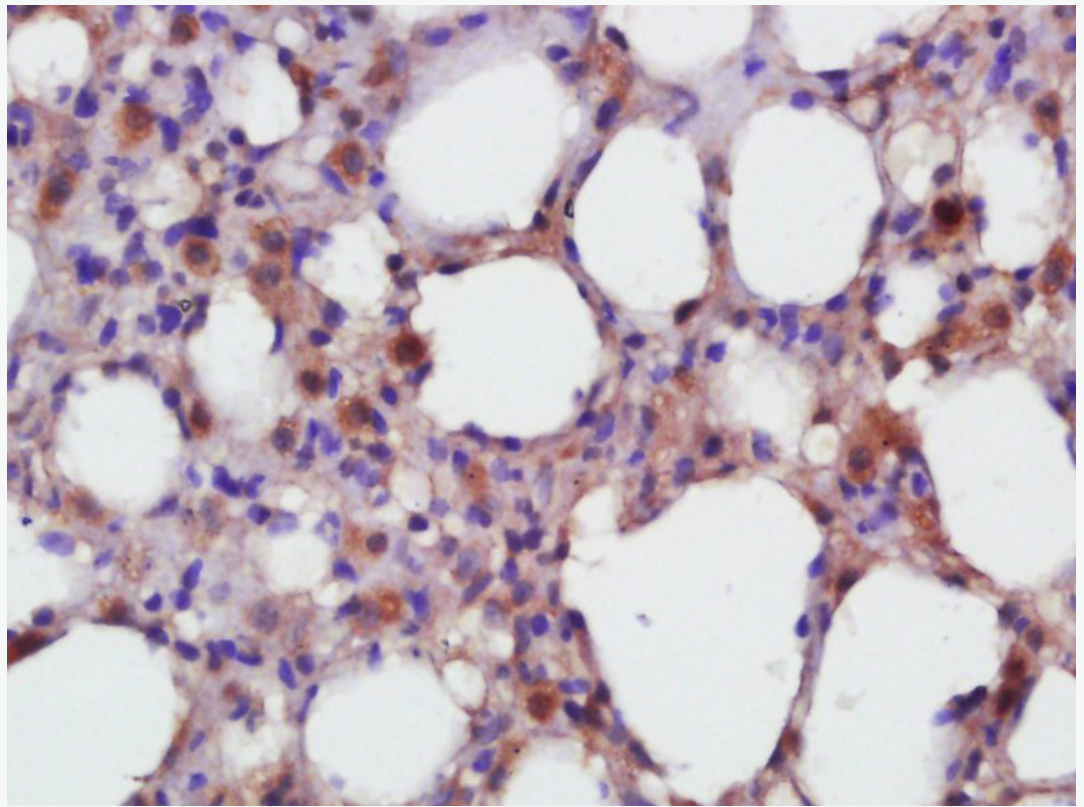
Lane 5: Liver (Rat) Lysate at 40 ug

Primary: Anti-TGF beta 1 (SL0086R) at 1/1000 dilution

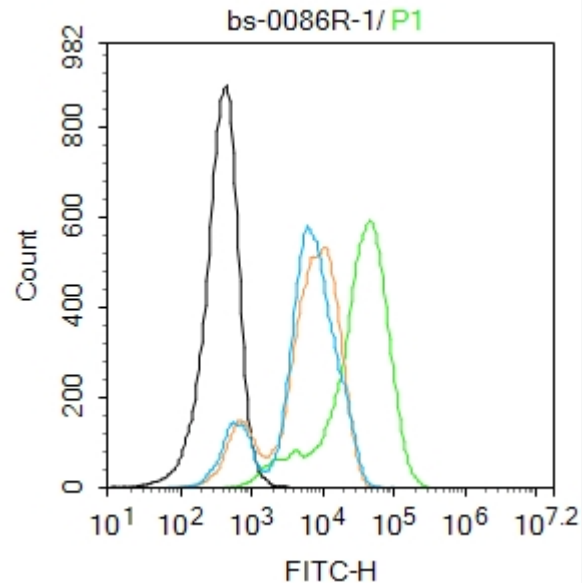
Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

Predicted band size: 50/25/12.5 kD

Observed band size: 50 kD



Paraformaldehyde-fixed, paraffin embedded (Rat lung); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (TGF beta 1) Polyclonal Antibody, Unconjugated (SL0086R) at 1:400 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructions and DAB staining.



Blank control:MG63.

Primary Antibody (green line): Rabbit Anti-TGF beta 1 antibody (SL0086R)

Dilution: 1 $\mu$ g /10<sup>6</sup> cells;

Isotype Control Antibody (orange line): Rabbit IgG .

Secondary Antibody : Goat anti-rabbit IgG-FITC

Dilution: 1 $\mu$ g /test.

#### Protocol

The cells were fixed with 4% PFA (10min at room temperature)and then permeabilized with 0.1% PBST for 20 min at room temperature. The cells were then incubated in 5%BSA to block non-specific protein-protein interactions for 30 min at room temperature .Cells stained with Primary Antibody for 30 min at room temperature. The secondary antibody used for 40 min at room temperature.



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Acquisition of 20,000 events was performed.