

## Recombinant Human/Bovine/Porcine TGFB1 Protein

**Cat. No.** TGFB1-37H    **Lot. No.** (See product label)

### SPECIFICATION

**Product Overview**

Recombinant human/bovine/porcine TGF- $\beta$ 1 PLUS protein without tag was expressed in E. coli.

Animal-free (AOF) and carrier protein-free.

Mass spectrometry: single species with expected mass.

Analytical reversed-phase: single sharp peak.

Recovery from stock vial: >95%

**Species**                      Human

**Source**                        E.coli

**Description**

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 preprotein 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.

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<b>Molecular Mass</b>	24 kDa (dimer)
<b>Endotoxin</b>	<0.005 EU/μg protein (below level of detection)
<b>Applications</b>	Maintenance of pluripotency in human iPSC; cell culture media optimisation and replacement of insulin in defined media
<b>Storage</b>	Resuspend in 10mM HCl at >100 μg/mL, prepare single use aliquots, add carrier protein if desired and store frozen at -20 or -80 centigrade
<b>Storage Buffer</b>	Lyophilized from acetonitrile, TFA

## GENE INFORMATION

<b>Gene Name</b>	TGFB1 transforming growth factor beta 1 [ Homo sapiens (human) ]
<b>Official Symbol</b>	TGFB1
<b>Synonyms</b>	TGFB1; transforming growth factor beta 1; CED; LAP; DPD1; TGFB; IBDIMDE; TGFbeta; TGF-beta1; transforming growth factor beta-1 proprotein; TGF-beta-1; latency-associated peptide; prepro-transforming growth factor beta-1; transforming growth factor beta1
<b>Gene ID</b>	7040
<b>mRNA Refseq</b>	NM_000660
<b>Protein Refseq</b>	NP_000651
<b>MIM</b>	190180

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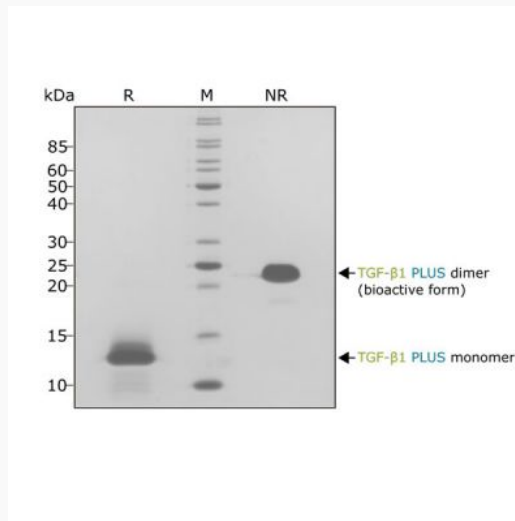
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**UniProt ID**

P01137

**Bioactivity**

TGF- $\beta$ 1 PLUS is highly bioactive compared to mammalian-expressed TGF- $\beta$ 1 preparations from other suppliers. Comparative activity determined using a quantitative luciferase reporter assay in transiently transfected HEK293T cells. Cells were treated with a serial dilution of TGF- $\beta$ 1. Firefly luciferase activity is measured and normalized to the control Renilla luciferase activity. TGF- $\beta$ 1 PLUS EC<sub>50</sub> 1.5 pM (0.037 ng/mL). Suppliers 1 and 2 have EC<sub>50</sub> ~3.5 pM and 38 pM respectively.

**Purity**


TGF- $\beta$ 1 PLUS dimer migrates as a single band at 24 kDa in non-reducing and 13 kDa as a single monomeric species upon reduction (R). High purity yield of dimeric protein (bioactive form). Purified recombinant protein was resolved using 15% w/v SDS-PAGE in reduced and non-reduced conditions and stained with Coomassie Brilliant Blue R250.

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