RP01458

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Recombinant Human Mature TGF-beta 1 Protein

Catalog No.: RP01458 Recombinant 7 Publications

Sequence Information

Species	Gene ID	Swiss Prot
HEK293 cells	7040	P01137

Tags
No tag

Synonyms
TGFB1; CED; DPD1; LAP; TGFB; TGFbeta; transforming growth factor beta-1;TGF-beta 1;CED;DPD1;LAP;TGFB;TGFbeta;TGF-β

Product Information

Source
HEK293 cells

Purification
> 95% by SDS-PAGE.

Endotoxin
<0.1EU/μg

Formulation
Lyophilized from a 0.22 μm filtered solution of 50 mM Glycine,150 mM NaCl,pH3.5.

Reconstitution
Centrifuge the vial before opening. Reconstitute to a concentration of 0.1-0.5 mg/mL in sterile distilled water. Avoid vortex or vigorously pipetting the protein. For long term storage, it is recommended to add a carrier protein or stablizer (e.g. 0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose), and aliquot the reconstituted protein solution to minimize free-thaw cycles.

Contact

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Background

TGF-beta 1 is a member of the transforming growth factor beta (TGF-beta) family. The transforming growth factor-beta family of polypeptides are involved in the regulation of cellular processes, including cell division, differentiation, motility, adhesion and death. TGF-beta 1 positively and negatively regulates many other growth factors. It inhibits the secretion and activity of many other cytokines including interferon-γ, tumor necrosis factor-alpha and various interleukins. It can also decrease the expression levels of cytokine receptors. Meanwhile, TGF-beta 1 also increases the expression of certain cytokines in T cells and promotes their proliferation, particularly if the cells are immature. TGF-beta 1 also inhibits proliferation and stimulates apoptosis of B cells, and plays a role in controlling the expression of antibody, transferrin and MHC class II proteins on immature and mature B cells. As for myeloid cells, TGF-beta 1can inhibit their proliferation and prevent their production of reactive oxygen and nitrogen intermediates. However, as with other cell types, TGF-beta 1 also has the opposite effect on cells of myeloid origin. TGF-beta 1 is a multifunctional protein that controls proliferation, differentiation and other functions in many cell types. 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. Once cells lose their sensitivity to TGF-beta1-mediated growth inhibition, autocrine TGF-beta signaling can promote tumorigenesis. Elevated levels of TGF-beta1 are often observed in advanced carcinomas, and have been correlated with increased tumor invasiveness and disease progression.

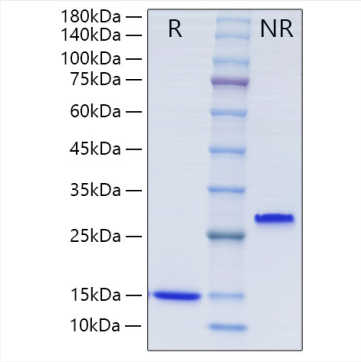
Basic Information

Description
Recombinant Human Mature TGF-beta 1 Protein is produced by HEK293 cells expression system. The target protein is expressed with sequence (Ala279-Ser390) of human Mature TGF-beta 1 (Accession #NP_000651.3) fused with no tag.

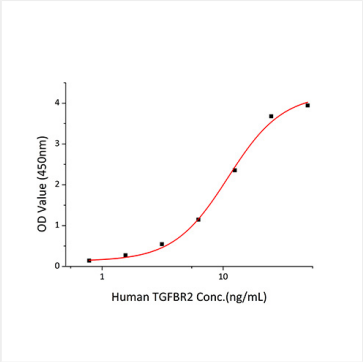
Bio-Activity
1.Measured by its binding ability in a functional ELISA. Immobilized Human TGF-beta 1 at 2 μg/mL (100 μL/well) can bind Human TGFBR2 with a linear range of 0.78-11 ng/mL.|2.Measured by its ability to inhibit the IL-4(Catalog: RP01161)-dependent proliferation of HT□ 2 mouse T cells. The ED₅₀ for this effect is 12.85-51.40 pg/mL, corresponding to a specific activity of 1.95×10⁷~7.78×10⁷ units/mg.|3.Measured in a cell proliferation assay using Mv.1.lu cells. The ED₅₀ for this effect is 0.08-0.32ng/mL,corresponding to a specific activity of 3.13×10⁶~1.25×10⁷ units/mg.

Storage
Store at -20℃.Store the lyophilized protein at -20℃ to -80 ℃ up to 1 year from the date of receipt.
After reconstitution, the protein solution is stable at -20℃ for 3 months, at 2-8℃ for up to 1 week.
Avoid repeated freeze/thaw cycles.

Validation Data



Recombinant Human Mature TGF-beta 1 Protein was determined by SDS-PAGE under reducing (R) and non-reducing (NR) conditions.



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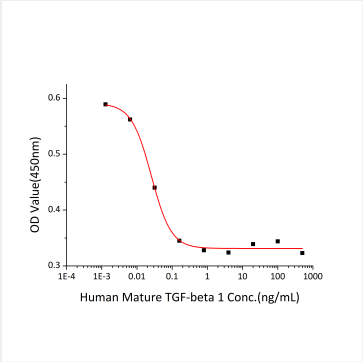

Recombinant Human Mature TGF-beta 1 inhibit the IL-4(Catalog: RP01161)-dependent proliferation of HT□ 2 mouse T cells. The ED_{50} for this effect is 12.85-51.40 pg/mL, corresponding to a specific activity of 1.95×10^{7}~7.78×10^{7} units/mg.