

RP01458

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Recombinant Human Mature TGF-beta 1 Protein

Catalog No.: RP01458

Recombinant

10 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	Purification
HEK293 cells	≥ 95 % as determined by SDS-PAGE.

Endotoxin

< 0.01 EU/μg of the protein by LAL
method.

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 stabilizer (e.g. 0.1% BSA, 5% HSA,
10% FBS or 5% Trehalose), and aliquot
the reconstituted protein solution to
minimize free-thaw cycles.

Contact



www.abclonal.com

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 1 can 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. 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. Recombinant Human Mature TGF-beta 1 inhibit the IL-4(Catalog: RP01161)-dependent proliferation of HT \square 2 mouse T cells. The ED₅₀ for this effect is 12.85-51.40 pg/mL, corresponding to a specific activity of $1.95 \times 10^7 \sim 7.78 \times 10^7$ 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 $3.13 \times 10^6 \sim 1.25 \times 10^7$ units/mg.

Shipping

The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

Operational Notes

For your safety and health, please wear a lab coat and disposable gloves for handling.

Storage

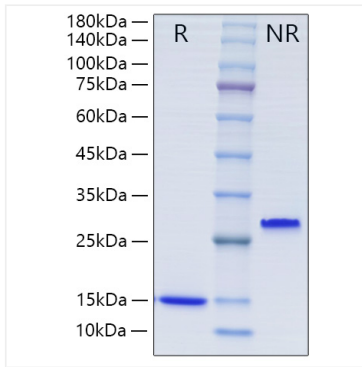
Store at -20°C. Store the lyophilized protein at -20°C to -80 °C up to 1 year from

the date of receipt.

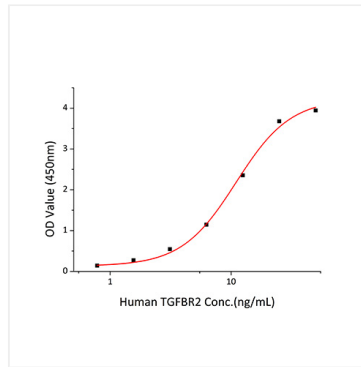
After reconstitution, the protein solution is stable at -20°C for 3 months, at 2-8°C for up to 1 week.

Avoid repeated freeze/thaw cycles.

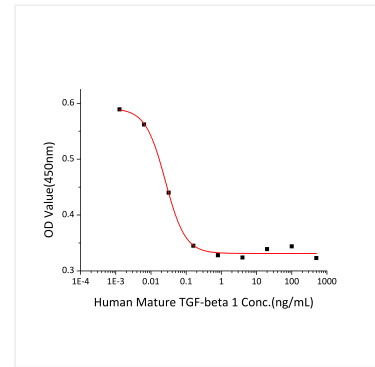
Validation Data



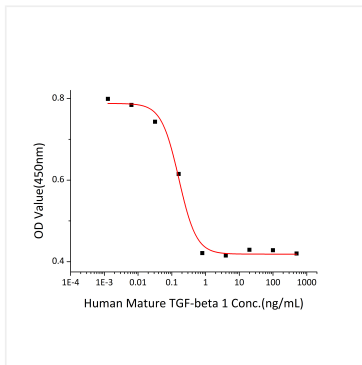
Recombinant Human Mature TGF-beta 1 Protein was determined by SDS-PAGE under reducing (R) and non-reducing (NR) conditions.



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.



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