Recombinant Human Mature TGF-beta 1 Protein

Catalog No.: RP01458

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Sequence Information

Species
Human

Gene ID
7040

Swiss Prot
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 % as determined by SDS-PAGE.

Calculated MW
12.79 kDa

Observed MW
15 kDa

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

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.

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-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.
3.Measured in a cell proliferation assay using Mv.1.lu cells. The ED_{50} for this effect is 0.08-0.32ng/mL,corresponding to a specific activity of 3.13×10^6~1.25×10^7 units/mg.

Shipping
Lyophilized proteins are shipped at ambient temperature.
Liquid proteins are shipped at frozen temperature with dry ice.
Upon receipt, store it immediately at the temperature recommended below.

Storage
Store at -20℃

Contact

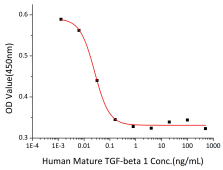
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Please visit http://abclonal.com for a complete listing of recommended products.

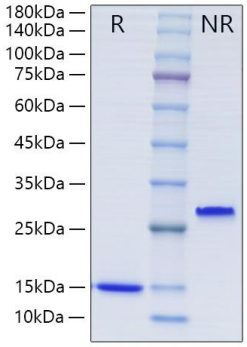
Operational Notes

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

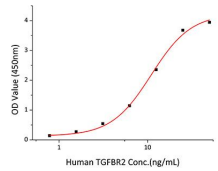
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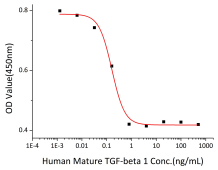
Recombinant Human Mature TGF-beta 1 inhibit the IL-4(Catalog: RP01161)-dependent proliferation of HT-2 mouse T cells. The ED_{50} for this effect is 12.85-51.40 pg/mL, corresponding to a specific activity of 1.95×10^7~7.78×10^7 units/mg.



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.



Measured in a cell proliferation assay using Mv.1.lu cells. The ED_{50} for this effect is 0.08-0.32ng/mL,corresponding to a specific activity of 3.13×10^6~1.25×10^7 units/mg.