

Produktinformation



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Data Sheet (Cat.No.TMPY-00608)



TGF beta 1 Protein, Rat/Mouse, Recombinant

General Information

Protein Construction:

Synonyms: transforming growth factor, beta 1;transforming growth factor, β1;TGF β1

The Mouse / Rat TGFB1 (Ala279-Ser390) was expressed. Rat and Mouse mature TGFB1

sequences are identical.

Species: Mouse,Rat

Expression Host: HEK293 Cells

Molecular Weight: 12.8 kDa (predicted)

QC Testing

Biological Activity:

Measured by its ability to inhibit cell proliferation of Mv-1-lu mink lung epithelial cells. The

ED50 for this effect is 0.2-0.8 ng/mL.

Purity: > 90 % as determined by SDS-PAGE

Endotoxin: $< 1.0 \text{ EU/}\mu\text{g}$ of the protein as determined by the LAL method.

Lyophilized from a solution filtered through a 0.22 µm filter, containing PBS, pH 7.4. Typically,

Formulation: a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a

protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Shipping:

In general, Lyophilized powders are shipping with blue ice.

Protein 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

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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. Cancer ImmunotherapyImmune CheckpointImmunotherapyTargeted Therapy

Reference

Ghadami M, et al. (2000) Genetic Mapping of the Camurati-Engelmann Disease Locus to Chromosome 19q13.1-q13.3. Am J Hum. Genet. 66(1):143-7.

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