

Mouse / Rat TGF-beta 1 / TGFB1 Protein



Sino Biological
Biological Solution Specialist

Catalog Number: 80116-RNAH

General Information

Gene Name Synonym:

TGFB1

Protein Construction:

A DNA sequence encoding the mouse / rat TGFB1 (Ala279-Ser390) was expressed. Rat and Mouse mature TGFB1 sequences are identical.

Source: Mouse, Rat

Expression Host: HEK293 Cells

QC Testing

Purity: > 90 % as determined by SDS-PAGE

Bio Activity:

1. Measured by its ability to inhibit cell proliferation of Mv-1-lu mink lung epithelial cells. The ED50 for this effect is typically 0.02-0.2 ng/mL.
2. The expression of IL11 and Acta2 mRNA in mouse fibroblasts was up-regulated after being cultured with 100ng/mL TGFB1 (Cat#80116-RNAH) for 24 hours. Data provided by Dr. Song at China Agricultural University.

Endotoxin:

< 1.0 EU per µg of the protein as determined by the LAL method

Predicted N terminal: Ala 279

Molecular Mass:

The recombinant mouse / rat TGFB1 comprises 112 amino acids and predicts a molecular mass of 12.8 kDa.

Formulation:

Lyophilized from sterile PBS, pH 3.0.

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Stability & Storage:

Samples are stable for twelve months from date of receipt at -20°C to -80°C.

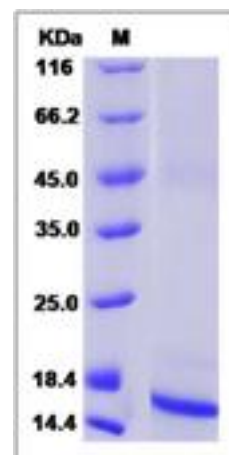
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

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.

References

1. 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.
2. Letterio J, et al. (1998) Regulation of immune responses by TGF-beta. Annu Rev Immunol. 16:137-61.
3. Vaughn SP, et al. (2000) Confirmation of the mapping of the Camurati-Engelmann locus to 19q13. 2 and refinement to a 3.2-cM region. Genomics. 66(1):119-21.