

Human / Rhesus / Canine TGF-beta 1 / TGFB1 Protein

Catalog Number: 10804-HNAC



Sino Biological Inc.
Biological Solution Specialist

General Information

Gene Name Synonym:

CED, DPD1, LAP, TGFB, TGFbeta, TGFB1

Protein Construction:

A DNA sequence encoding the active form of human/rhesus/canine TGFβ1 (NP_000651.3) (Ala 279-Ser 390) was expressed and purified. Human, Rhesus and Canine TGFβ1 sequences are identical.

Source: Human

Expression Host: CHO Stable Cells

QC Testing

Purity: > 95 % as determined by HPLC.

Bio-Activity:

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

The ED50 for this effect is typically 0.04-0.2 ng/mL.

Endotoxin:

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

Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: Ala 279

Molecular Mass:

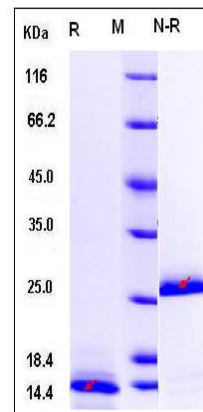
The recombinant human/rhesus/canine TGFβ1 consists of 112 amino acids and has a calculated molecular mass of 12.8 kDa. It migrates as an approximately 13 & 26 kDa band in reduced and non-reduced SDS-PAGE respectively, corresponding to the monomer and homodimer.

Formulation:

Lyophilized from sterile 100 mM GYL, 10 mM NaCl, pH 3.0.

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

SDS-PAGE:



Usage Guide

Storage:

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.

Protein Description

Transforming growth factor beta 1 (TGFβ1) is a member of the large transforming growth factor beta superfamily of cytokines, and serves as a multifunctional molecule performing actions in many cellular functions, including the control of cell growth, cell proliferation, cell differentiation and apoptosis. TGFβ1 was first synthesized as a 390 amino acid precursor. The secreted proprotein contains 360 aa, and is cleaved into mature TGFβ1(112 aa) and latency-associated peptide (LAP)(248 aa), which remains non-covalently linked to mature TGFβ1 rendering it inactive. TGFβ1 is synthesized by many cells, and regulates many other growth factors both in positive and negative manner. It has been shown that TGFβ1 plays an important role in controlling the immune system and shows different activities on different types of cell, or cells at different developmental stages. Highly expressed in bone and as a potent stimulator of osteoblastic bone formation, TGFβ1 is able to cause chemotaxis, proliferation and differentiation in committed osteoblasts. Further, TGFβ1 is also identified as a disease marker and a therapeutic target for cardiovascular disease. TGFβ activation from latency is controlled by multiple pathways including actions of some proteases, such as MMP9 and plasmin.

References

1. Assoian R. et al., 1983, J Biol Chem. 258 (11): 7155-60.
2. Letterio J. et al., 1998, Annu Rev Immunol. 16: 137-61.
3. Leberman D. et al., 1999, Microbes Infect. 1 (15): 1297-304.
4. Ghadami M, et al., 2000, Am. J. Hum. Genet. 66 (1): 143-7.
5. Vaughn SP. et al., 2000, Genomics. 66 (1): 119-21.
6. Sánchez-Capelo A. 2005, Cytokine & growth factor reviews. 16 (1): 15-34.
7. Redondo S. et al., 2007, Cytokine & growth factor reviews. 18 (3-4): 279-86.

Manufactured By Sino Biological Inc., FOR RESEARCH USE ONLY. NOT FOR USE IN HUMANS.

Fax :+86-10-51029969 • Tel:+86-400-890-9989 • <http://www.sinobiological.com>