

# Recombinant Rat TGFB1/TGF-beta 1 Protein

Catalog Number:PKSR030419



**Note:** Centrifuge before opening to ensure complete recovery of vial contents.

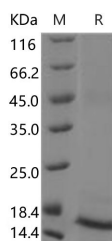
## Description

|                                    |   |
|------------------------------------|---|
| <b>Synonyms</b>                    | TGF-beta 1;TGFB;TGFbeta   |
| <b>Species</b>                     | Rat   |
| <b>Expression Host</b>             | HEK293 Cells  |
| <b>Sequence</b>                    | Ala279-Ser390   |
| <b>Accession</b>                   | P17246  |
| <b>Calculated Molecular Weight</b> | 12.8 kDa  |
| <b>Tag</b>                         | None  |
| <b>Bioactivity</b>                 | 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. |

## Properties

|                       |   |
|-----------------------|---|
| <b>Purity</b>         | > 90 % as determined by reducing SDS-PAGE.  |
| <b>Endotoxin</b>      | < 1.0 EU per µg of the protein as determined by the LAL method.   |
| <b>Storage</b>        | Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months. |
| <b>Shipping</b>       | This product is provided as lyophilized powder which is shipped with ice packs.   |
| <b>Formulation</b>    | Lyophilized from sterile PBS, pH 7.4<br>Normally 5 % - 8 % trehalose, mannitol and 0.01 % Tween80 are added as protectants before lyophilization.<br>Please refer to the specific buffer information in the printed manual.           |
| <b>Reconstitution</b> | Please refer to the printed manual for detailed information.  |

## Data



> 90 % as determined by reducing SDS-PAGE.

## 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- $\gamma$ , 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

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Fax: 1-832-243-6017

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MHC class II proteins on immature and mature B cells. 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.

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