

# Rat TGFBR2 Protein (Fc Tag)

Catalog Number: 80139-R02H



Sino Biological  
Biological Solution Specialist

## General Information

### Gene Name Synonym:

TGFB2

### Protein Construction:

A DNA sequence encoding the rat TGFBR2 (P38438) (Met1-Gln166) was expressed, fused with the Fc region of human IgG1 at the C-terminus.

Source: Rat

Expression Host: HEK293 Cells

## QC Testing

Purity: > 95 % as determined by SDS-PAGE

### Bio Activity:

Measured by its ability to bind recombinant canineTGFB1-His (Cat:70087-D08H) in a functional ELISA.

### 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: Ile 24

### Molecular Mass:

The recombinant rat TGFBR2/Fc is a disulfide-linked homodimer. The reduced monomer comprises 384 amino acids and has a predicted molecular mass of 43 kDa. The apparent molecular mass of the protein is approximately 54 kDa in SDS-PAGE under reducing conditions.

### Formulation:

Lyophilized from sterile PBS, pH 7.4

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

### Storage:

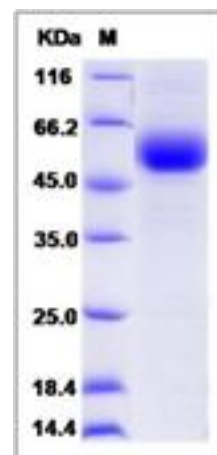
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

### Reconstitution:

Detailed reconstitution instructions are sent along with the products.

## SDS-PAGE:



## Protein Description

TGFB2 is member of the Ser/Thr protein kinase family and the TGFB receptor subfamily. It is a transmembrane protein. TGFB2 is comprised by a C-terminal protein kinase domain and an N-terminal ectodomain. The ectodomain consists of a compact fold containing nine beta-strands and a single helix stabilised by a network of six intra strand disulphide bonds. The folding topology includes a central five-stranded antiparallel beta-sheet, eight-residues long at its centre, covered by a second layer consisting of two segments of two-stranded antiparallel beta-sheets. TGFB2 has a protein kinase domain, forms a heterodimeric complex with another receptor protein, and binds TGF-beta. This receptor/ligand complex phosphorylates proteins, which then enter the nucleus and regulate the transcription of a subset of genes related to cell proliferation. Mutations in TGFB2 gene have been associated with Marfan syndrome, Loeys-Deitz Aortic Aneurysm Syndrome, and the development of various types of tumors. TGFB2 attenuates the biological activities of TGF-beta in colorectal cancer. TGFB2 expression is increased in oral squamous cell carcinoma cells. Its expression is decreased by IL-1beta while inducing Sp3 via NFkappaB. TGFB2 and TGFB2 are involved in the antiestrogenic activity.

## References

- 1.Yu Y, et al. (2012) MicroRNA-21 induces stemness by downregulating transforming growth factor beta receptor 2 (TGFB2) in colon cancer cells. Carcinogenesis. 33(1):68-76.
- 2.Shima K, et al. (2011) TGFB2 and BAX mononucleotide tract mutations, microsatellite instability, and prognosis in 1072 colorectal cancers. PLoS One. 6(9):e25062.
- 3.Biros E, et al. (2011) Meta-analysis of the association between single nucleotide polymorphisms in TGF-beta receptor genes and abdominal aortic aneurysm. Atherosclerosis. 219(1):218-23.

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