

# Human TGFBR2 Protein (Fc Tag)



Sino Biological  
Biological Solution Specialist

Catalog Number: 10358-H02H

## General Information

### Gene Name Synonym:

AAT3; FAA3; LDS1B; LDS2; LDS2B; MFS2; RIIC; TAAD2; TGFbeta-RII; TGFR-2

### Protein Construction:

A DNA sequence encoding the human TGFBR2 (NP\_003233.4) (Met1-Asp159) was expressed with the Fc region of human IgG1 at the C-terminus.

Source: Human

Expression Host: HEK293 Cells

## QC Testing

Purity: > 95 % as determined by SDS-PAGE.

### Bio-activity:

Measured by its binding ability in a functional ELISA. Immobilized TGFBR2h (1-166Q)(Cat:10358-H08B) at 10 µg/mL (100 µL/well) can bind TGFB1-His/Biotin (Cat:10804-H08H), the EC<sub>50</sub> of human TGFB1-His/Biotin (Cat:10804-H08H) is 130-300 ng/mL.

### Endotoxin:

<1.0 EU per µg 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: Thr 23

### Molecular Mass:

The recombinant human TGFBR2 consists of 375 amino acids and predicts a molecular mass of 42.2 kDa.

### 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:

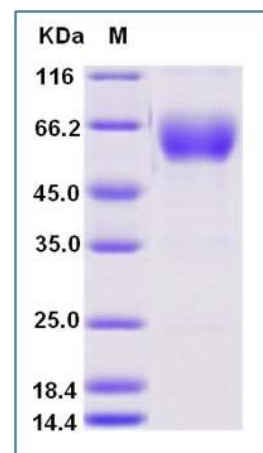
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

### Reconstitution:

Detailed reconstitution instructions are sent along with the products.

## SDS-PAGE:



## Protein Description

TGFBR2 is member of the Ser/Thr protein kinase family and the TGFB receptor subfamily. It is a transmembrane protein. TGFBR2 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. TGFBR2 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 TGFBR2 gene have been associated with Marfan syndrome, Loeys-Deitz Aortic Aneurysm Syndrome, and the development of various types of tumors. TGFBR2 attenuates the biological activities of TGF-beta in colorectal cancer. TGFBR2 expression is increased in oral squamous cell carcinoma cells. Its expression is decreased by IL-1beta while inducing Sp3 via NFkappaB. TGFB2 and TGFBR2 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 (TGFβR2) in colon cancer cells. *Carcinogenesis*. 33(1):68-76.
- 2.Shima K, *et al.* (2011) TGFBR2 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-β receptor genes and abdominal aortic aneurysm. *Atherosclerosis*. 219(1):218-23.

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