

Recombinant Human TGFR-1/ALK-5 Protein

Catalog No.: RP01408 **Recombinant**

Sequence Information

Species	Gene ID	Swiss Prot
Human	7046	P36897-1

Tags

C-hFc&His

Synonyms

TGFR1;AAT5;ACVRLK4;ALK-5;ALK5;ESS1;LDS1;LDS1A;LDS2A;MSSE;SKR4;TGFR-1;tbetaR-I;TBRI;TBR-i

Product Information

Source	Purification
HEK293 cells	> 95% by SDS-PAGE.

Endotoxin

<1EU/μg

Formulation

Lyophilized from a 0.22 μm filtered solution of PBS, pH 7.4.

Reconstitution

Centrifuge the vial before opening. Reconstitute to a concentration of 0.1-0.5 mg/mL in sterile distilled water. Avoid vortex or vigorously pipetting the protein. For long term storage, it is recommended to add a carrier protein or stabilizer (e.g. 0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose), and aliquot the reconstituted protein solution to minimize free-thaw cycles.

Contact

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Background

Transforming growth factor, beta receptor I, also known as Transforming growth factor-beta receptor type I, Serine / threonine-protein kinase receptor R4, Activin receptor-like kinase 5, SKR4, ALK-5, and TGFR1, is a single-pass type I membrane protein that belongs to the protein kinase superfamily and TGFβ receptor subfamily. TGFR1 / ALK-5 is found in all tissues examined. It is most abundant in placenta and least abundant in brain and heart. TGF-beta functions as a tumor suppressor by inhibiting the cell cycle in the G1 phase. Administration of TGF-beta is able to protect against mammary tumor development in transgenic mouse models in vivo. Disruption of the TGF-beta/SMAD pathway has been implicated in a variety of human cancers, with the majority of colon and gastric cancers being caused by an inactivating mutation of TGF-beta RII. On ligand binding, TGFR1 / ALK-5 forms a receptor complex consisting of two type II and two type I transmembrane serine/threonine kinases. Type II receptors phosphorylate and activate type I receptors which auto-phosphorylate, then bind and activate SMAD transcriptional regulators.

Basic Information

Description

Recombinant Human TGFR-1/ALK-5 Protein is produced by HEK293 cells expression system. The target protein is expressed with sequence (Met1-Glu125) of human TGFR1/ALK5 (Accession #NP_004603.1) fused with a Fc, 6×His tag at the C-terminus.

Bio-Activity

Measured by its binding ability in a functional ELISA. Immobilized Human TGF-beta Protein at 2 μg/mL (100 μL/well) can bind TGFR1 with a linear range of 3.9-80.49 ng/mL.

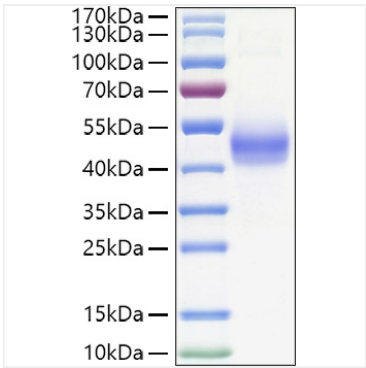
Storage

Store the lyophilized protein at -20°C to -80°C for long term.

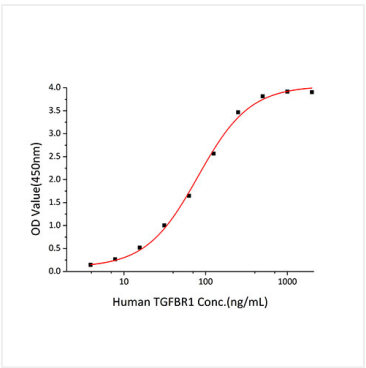
After reconstitution, the protein solution is stable at -20°C for 3 months, at 2-8°C for up to 1 week.

Avoid repeated freeze/thaw cycles.

Validation Data



Recombinant Human TGFR-1/ALK-5 Protein was determined by SDS-PAGE with Coomassie Blue, showing a band at 40-55kDa.



Immobilized recombinant Human TGF-beta Protein at 2μg/mL (100 μL/well) can bind TGFBR1 with a linear range of 3.9-80.49ng/mL.