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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
TGFBR1;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 % as determined by SDS-PAGE.

Calculated MW	Observed MW
39.90 kDa	40-55 kDa

Endotoxin
< 1 EU/μg of the protein by LAL method.

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 stablizer (e.g. 0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose), and aliquot the reconstituted protein solution to minimize free-thaw cycles.

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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 TGFBR1, is a single-pass type I membrane protein that belongs to the protein kinase superfamily and TGFB receptor subfamily. TGFBR1 / 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, TGFBR1 / ALK-5 forms a receptor complex consisting of two type I I 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 TGFBR1/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 TGFBR1 with a linear range of 3.9-80.49 ng/mL.

Shipping
The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

Storage
Store at -20℃.Store the lyophilized protein at -20℃ to -80 ℃ up to 1 year from the date of receipt.
After reconstitution, the protein solution is stable at -20℃ for 3 months, at 2-8℃ for up to 1 week.
Avoid repeated freeze/thaw cycles.

Operational Notes
For your safety and health, please wear a lab coat and disposable gloves for handling.

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Validation Data

Recombinant Human TGFR-1/ALK-5 Protein was determined by SDS-PAGE under reducing conditions with Coomassie Blue.

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.

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