

alk5 Active Protein | TGFBR1 active protein

alk5 Protein, Human, Recombinant (His & hFc Tag)

CATALOG #
AAA257886

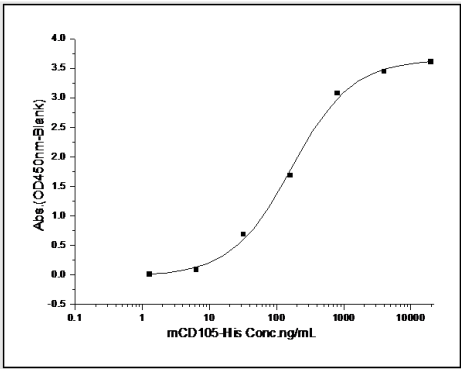
HOST
HEK293 Cells

PRODUCT SYNONYMS

alk5; alk5 Protein; Human; Recombinant (His & hFc Tag); Human TGFBR1/ALK-5/SKR4 Protein (His & Fc Tag); AAT5 Protein; ACVRLK4 Protein; ALK-5 Protein; ALK5 Protein; ESS1 Protein; LDS1 Protein; LDS1A Protein; LDS2A Protein; MSSE Protein; SKR4 Protein; tbetaR-I Protein; TGFR-1 Protein; transforming growth factor; beta receptor 1; TGFBR1 active protein

PRODUCT SPECIFICATIONS

Host	HEK293 Cells
Purity/Purification	>85% as determined by SDS-PAGE
Form/Format	Lyophilized from sterile PBS, pH7.4. Normally 5%-8% trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Please refer to the specific buffer information in the hard copy of CoA.
Sequence	Met1-Glu12 5
Species	Human
Activity	1. Measured by its binding ability in a functional ELISA. Immobilized mouse CD105 at 10ug/ml (100uL/well) can bind human TGFBR1 with a linear range of 6.4-800ng/mL. 2. Measured by its ability to bind human CD105 in a functional ELISA.
Endotoxin	<1.0EU per ug of the protein as determined by the LAL method
Predicted N Terminal	Leu 34
Tag	C-human IgG1-Fc & His
Protein Construction	A DNA sequence encoding the human TGFBR1 (NP_004603.1) extracellular domain (Met 1-Glu 125) was fused with the C-terminal polyhistidine-tagged Fc region of human IgG1 at the C-terminus.
Reconstitution	A hardcopy of COA with reconstitution instruction is sent along with the products. Please refer to it for detailed information.
Preparation and Storage	Samples are stable for up to twelve months from date of receipt at -20 degree C to -80 degree C. Store it under sterile conditions at -20 degree C to -80 degree C. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles. In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice.



SDS-PAGE

Application Data
Measured by its binding ability in a functional ELISA. Immobilized mouse CD105 at 10 ug/ml (100 ul/well) can bind human TGFBR1 with a linear ranger of 6.4-800 ng/ml.

ADDITIONAL INFORMATION

Related Product Information for TGFBR1 active protein	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. TGF-beta signaling via TGFBR1/ALK-5 is not required in myocardial cells during mammalian cardiac development, but plays an irreplaceable cell-autonomous role regulating cellular communication, differentiation and proliferation in endocardial and epicardial cells. Defects in TGFBR1/ALK-5 are the cause of Loeys-Dietz syndrome type 1A (LDS1A), Loeys-Dietz syndrome type 2A (LDS2A), and aortic aneurysm familial thoracic type 5 (AAT5).
References	Seki T, et al. (2006) Nonoverlapping expression patterns of ALK1 and ALK5 reveal distinct roles of each receptor in vascular development. Lab Invest. 86(2): 116-29. et al.Piek E, et al. (1999) TGF-(beta) type I receptor/ALK-5 and Smad proteins mediate epithelial to mesenchymal transdifferentiation in NMuMG breast epithelial cells. J Cell Sci. 112 (24): 4557-68. et al.Dudas M, et al. (2004) Tgf-beta3-induced palatal fusion is mediated by Alk-5/Smad pathway. Dev Biol. 266(1): 96-108.

NCBI AND UNIPROT INFORMATION

NCBI GI #	4759226
NCBI GeneID	7046
NCBI Accession #	NP_004603.1
NCBI GenBank Nucleotide #	NM_004612.2
UniProt Accession #	P36897; Q6IR47; Q706C0; Q706C1
Molecular Weight	55,960 Da
NCBI Official Full Name	TGF-beta receptor type-1 isoform 1
NCBI Official Synonym Full Names	transforming growth factor, beta receptor 1
NCBI Official Symbol	TGFBR1
NCBI Official Synonym Symbols	AAT5; ALK5; ESS1; LDS1; MSSE; SKR4; ALK-5; LDS1A; LDS2A; TGFR-1; ACVRLK4

NCBI Protein Information	TGF-beta receptor type-1; tbetaR-I; TGF-beta receptor type I; TGF-beta type I receptor; activin receptor-like kinase 5; multiple self-healing squamous epithelioma; transforming growth factor beta receptor I; serine/threonine-protein kinase receptor R4; ac
UniProt Protein Name	TGF-beta receptor type-1
UniProt Gene Name	TGFBR1
UniProt Synonym Gene Names	ALK5; SKR4; TGFR-1; ALK-5; ALK5; SKR4; TGF-beta receptor type I; TbetaR-I
UniProt Entry Name	TGFR1_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://www.aaabiotech.com/hek293-tgfr1-active-protein/alk5/257886>