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Bmpr1a
Recombinant Mouse BMPR-1A / ALK-3 / CD292 (His Tag)

Catalog No.	CRM529A-His	**Quantity:**	100 µg
	CRM529B-His		200 µg

Alternate Names: Bone morphogenetic protein receptor type-1A, BMP type-1A receptor, BMPR-1A, Activin receptor-like kinase 3, ALK-3, BMP-2/BMP-4 receptor, Serine/threonine-protein kinase receptor R5, SKR5, CD292

Description: Bone Morphogenetic Protein Receptor, type IA (BMPR-1A), is a type I receptor for bone morphogenetic proteins (BMPs) which belong to the transforming growth factor beta (TGF-β) superfamily. The BMP receptors form a subfamily of transmembrane serine/threonine kinases including the type I receptors BMPR-1A and BMPR-1B and the type II receptor BMPR2. BMPR-1A is expressed in the epithelium during branching morphogenesis. Deletion of BMPR-1A in the epithelium with an Sftpc-cre transgene leads to dramatic defects in lung development. ALK-3 and ALK-6 share a high degree of homology, yet possess distinct signaling roles. The transforming growth factor (TGF)-beta type III receptor (TbetaRIII) enhanced both ALK-3 and ALK-6 signaling. TbetaRIII associated with ALK-3 primarily through their extracellular domains, whereas its interaction with ALK-6 required both the extracellular and cytoplasmic domains. ALK-3 plays an essential role in the formation of embryonic ventral abdominal wall, and abrogation of BMP signaling activity due to gene mutations in its signaling components could be one of the underlying causes of omphalocele at birth. The type IA BMP receptor, ALK-3 was specifically required at mid-gestation for normal development of the trabeculae, compact myocardium, interventricular septum, and endocardial cushion. Cardiac muscle lacking ALK-3 was specifically deficient in expressing TGFbeta2, an established paracrine mediator of cushion morphogenesis.

UniProt ID: P36895

Accession Number: NP_033888.2

Protein Construction: A DNA sequence encoding the extracellular domain (Met 1-Arg 152) of mouse ALK3 precursor was expressed, fused with a polyhistidine tag at the C-terminus.

Source: HEK293 Cells

Formulation: Lyophilized from sterile PBS, pH 7.4
Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization.

Molecular Weight: The rmALK3 consists of 140 aa after removal of the signal peptide with a predicted MW of 15.8 kDa and migrates at ~30 kDa in SDS-PAGE under reducing conditions, due to glycosylation.

Purity: > 97 % as determined by SDS-PAGE

Endotoxin Level: < 1.0 EU per µg of the protein as determined by the LAL method

Predicted N-terminal: Gln 24

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Biological Activity: Measured by its ability to inhibit recombinant human BMP4 induced activity in MC3T3-E1 Mouse osteoblastic cells. The ED50 for this effect is typically 0.5-2 µg/ml in the presence of 50 ng/ml of recombinant human BMP4.

Reconstitution: **Centrifuge vial prior to opening.** Add sterile distilled water to a concentration of 0.1 mg/mL and gently pipette the solution up and down the sides of the vial.
DO NOT VORTEX. Allow several minutes for complete reconstitution.

Storage & Stability: Stable for up to 1 year from date of receipt at -20°C to -80°C
After reconstitution, store working aliquots at -20°C to -80°C.
Avoid repeated freeze-thaw cycles.

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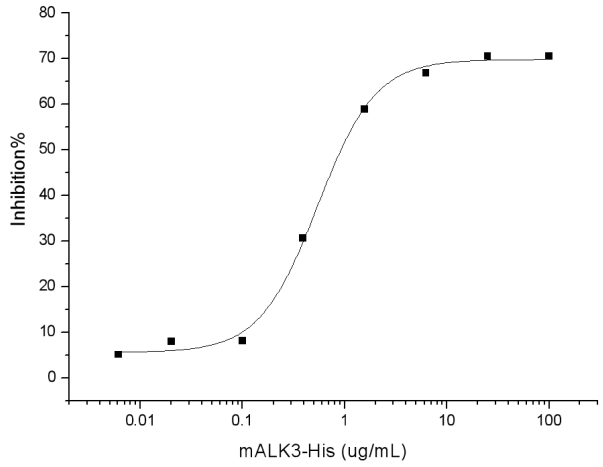
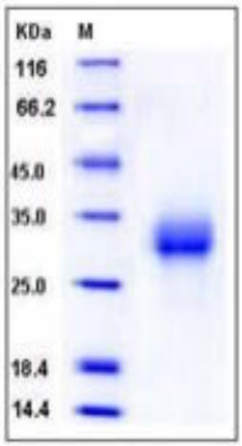


SDS-PAGE



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