Human BMPRIA / ALK-3 / CD292 Protein (His & Fc Tag)

Catalog Number: **10446-H03H**

Sino Biological Inc.
Biological Solution Specialist

General Information

Gene Name Synonym:

ACVRLK3, ALK3, CD292, BMPR1A

Protein Construction:

A DNA sequence encoding the extracellular domain (Met 1-Arg 152) of human ALK3 (NP_004320.2) was fused with the C-terminal polyhistidine-tagged Fc region of human IgG1 at the C-terminus.

Source: Human

Expression Host: Human Cells

QC Testing

Purity: > 97 % as determined by SDS-PAGE

Bio-Activity

Measured by its ability to inhibit BMP4 induced activity in MC3T3-E1 Mouse osteoblastic cells. The ED50 for this effect is typically 0.1-0.3 μg/ml in the presence of 50 ng/mL of recombinant human BMP4.

Endotoxin:

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

Stability:

Samples are stable for up to twelve months from date of receipt at -70 ℃

Predicted N terminal: Gln 24

Molecular Mass:

The recombinant human ALK3/Fc is a disulfide-linked homodimeric protein after removal of the signal peptide. The reduced monomer consists of 376 amino acids and has a predicted molecular mass of 42 kDa. In SDS-PAGE under reducing conditions, the apparent molecular mass of rh ALK3/Fc monomer is approximately 56 kDa due to glycosylation.

Formulation:

Lyophilized from sterile PBS, pH 7.4

Normally 5 % - 8 % trehalose and mannitol are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

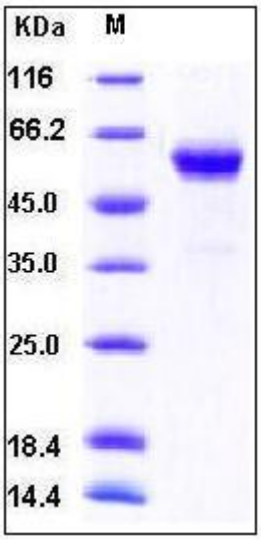
Usage Guide

Storage:

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

Avoid repeated freeze-thaw cycles.

SDS-PAGE:



Reconstitution:

Detailed reconstitutio with the products.

Protein Description

ALK3, also known as BMPR1A, 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 BMPR1A and BMPR1B and the type II receptor BMPR2. Type I and II BMP receptors are both indispensable for signal transduction. Upon ligand binding, they form a heterotetrameric-activated receptor complex consisting of two pairs of a type I and a II receptor. Type II receptors can bind ligands in the absence of type I receptors, whereas the respective type I receptors are required for signal transduction. The downstream molecules of the type I BMP receptors include the Smad (Smad1, 5 and 8) proteins that are phosphorylated in a ligand-dependent manner, and relay the BMP signal from the receptors to target genes in the nucleus. The expression of BMP type I receptors is up-regulated in bone morphogenesis and play central roles during embryonic development and fracture healing. In addition, it has been shown that type 1B and 1A BMP receptors transmit different signals to bone-derived mesenchymal progenitors and function in both the specification and differentiation of osteoblasts and adipocytes. Germline BMPR1A mutations cause a significant proportion of cases of Juvenile polyposis syndrome (JPS).

References

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