

Human BMPR1B / ALK-6 Protein (Fc Tag)

Catalog Number: 10460-H02H



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General Information

Gene Name Synonym:

ALK-6; ALK6; CDw293

Protein Construction:

A DNA sequence encoding the human ALK6 (Lys14-Arg126) was expressed with the Fc region of human IgG1 at the C-terminus.

Source: Human

Expression Host: HEK293 Cells

QC Testing

Purity: (54.4+36.1) % as determined by SDS-PAGE

Bio Activity:

Measured by its ability to inhibit rhBMP4-induced alkaline phosphatase production by MC3T3-E1 mouse osteoblastic cells. The ED₅₀ for this effect is typically 2-8 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 °C

Predicted N terminal: Lys 14

Molecular Mass:

The recombinant human ALK6/Fc is a disulfide-linked homodimer. The reduced monomer comprises 354 amino acids and has a predicted molecular mass of 39.7 kDa. The apparent molecular mass of the protein is approximately 110 kDa in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile PBS, pH 7.4

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 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:

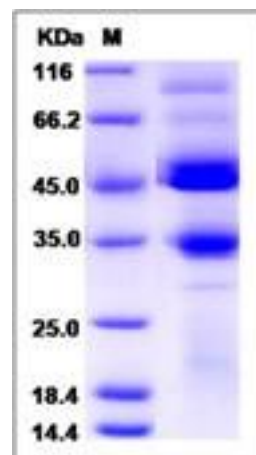
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

BMPR1B(bone morphogenetic protein receptor, type IB), also known as ALK6, is a member of the bone morphogenetic protein (BMP) receptor family. BMPs are involved in endochondral bone formation and embryogenesis. These proteins transduce their signals through the formation of heteromeric complexes of 2 different types of serine (threonine) kinase receptors: type I receptors of about 50-55 kD and type II receptors of about 70-80 kD. Type II receptors bind ligands in the absence of type I receptors, but they require their respective type I receptors for signaling, whereas type I receptors require their respective type II receptors for ligand binding. BMPR1B is the major transducer of signals in precartilaginous condensations as demonstrated in experiments using constitutively active BMPR1B receptors. BMPR1B is a more effective transducer of GDF5 than BMPR1A. Unlike BMPR1A null mice, which die at an early embryonic stage, BMPR1B null mice are viable.

References

1. Ide H, *et al.* (1998) Assignment of the BMPR1A and BMPR1B genes to human chromosome 10q22.3 and 4q23--q24 by in situ hybridization and radiation hybrid mapping. *Cytogenet. Cell Genet.* 81(3-4): 285-6.
2. Mishina Y, *et al.* (2004) Bone morphogenetic protein type IA receptor signaling regulates postnatal osteoblast function and bone remodeling. *J Biol Chem.* 279(26): 27560-6.
3. Yoon BS, *et al.* (2005) Bmpr1a and Bmpr1b have overlapping functions and are essential for chondrogenesis in vivo. *Proc Natl Acad Sci.* 102(14): 5062-7.

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