Data Sheet (Cat.No.TMPY-04367)

TargetMol

BMPRIB Protein, Human, Recombinant (aa 149-502, His & GST)

General Information

Synonyms:	bone morphogenetic protein receptor, type IB;CDw293;ALK-6;ALK6
Protein Construction:	A DNA sequence encoding the human ALK6 (NP_001194.1) cytoplasmic domain (Arg 149-Leu 502) was fused with the N-terminal polyhistidine-tagged GST tag at the N-terminus. Predicted N terminal: Met
Species:	Human
Expression Host:	Baculovirus Insect Cells
Accession:	O00238-1
Molecular Weight:	68.3 kDa (predicted); 55 kDa (reducing conditions)

QC Testing

Biological Activity:	Kinase activity untested
Purity:	> 90 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Supplied as sterile 50 mM Tris, 100 mM NaCl, pH 8.5, 20% gly, 0.3 mM DTT.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store the product under sterile conditions at -20°C to -80°C. Samples are stable for up to 12 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

Proteins are shipped with blue ice.

Protein Background

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.

Reference

Ide H, et al. (1998) Assignment of the BMPR1A and BMPR1B genes to human chromosome 10q22.3 and 4q23--q24 byin situ hybridization and radiation hybrid map ping. Cytogenet. Cell Genet. 81(3-4): 285-6.
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.
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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