

Recombinant Human BMPR1A, His-tagged

Cat. No. BMPR1A-160H Lot. No. (See product label)

SPECIFICATION

Product Overview	Recombinant BMPR1A produced in insect cells was a 23kDa protein. It consisted of an extracellular domain that was fused with a carboxy-terminal 6X his-tag.
Species	Human
Source	Insect Cells
Description	The bone morphogenetic protein (BMP) receptors are a family of transmembrane serine/threonine kinases that include the type I receptors BMPR1A (this protein) and BMPR1B and the type II receptor BMPR2. Cellular responses to bone morphogenetic proteins (BMPs) have been shown to be mediated by the formation of hetero-oligomeric complexes of the type I and type II serine/threonine kinase receptors. BMP receptor 1A (BMPR-1A), also known as activin receptor-like kinase (ALK)-3, is one of seven known type I serine/threonine kinases that are required for the signal transduction of TGF-β family cytokines. In contrast to the TGF-β receptor system in which the type I receptor does not bind TGF-β in the absence of the type II receptor, type I receptors involved in BMP signaling (including BMPR-1A, BMPR-1B/ALK-6, and ActR-I/ALK-2) can independently bind the various BMP family proteins in the absence of type II receptors. Recombinant soluble BMPR-1A binds BMP-2 and -4 with high-affinity in solution and is a potent BMP-2/4 antagonist in vitro.
Purity	>90% by SDS-PAGE and silver staining.
Endotoxin level	<0.1ng per μ g of BMPR1A.

Tel: 1-631-559-9269 1-516-512-3133

Email: info@creative-biomart.com Fax: 1-631-938-8127

45-1 Ramsey Road, Shirley, NY 11967, USA

Buffer	PBS.
Stabilizer	None.
Formulation	Lyophilized.
Biologically Activity	Measured by its ability to inhibit recombinant human BMP-2 induced alkaline phosphatase production by C2C12 myogenic cells. The ED50 for this effect is typically 1-3 µg/ml in the presence of 500 ng/ml of recombinant human BMP-2.
Reconstitution	It is recommended that sterile PBS containing at least 0.1% HSA or BSA be added to the vial to prepare a stock solution of no less than 100 µg/ml of BMPR-IA.
Stability	Lyophilized samples are stable for greater than six month at -20°C to -70°C. Upon reconstitution, this cytokine can be stored under sterile conditions at -2°C to -4°C for one month or at -20°C to -70°C for three month without detecable loss of activity. Avoid repeated freeze–thaw cycles.

GENE INFORMATION

Gene Name	BMPR1A bone morphogenetic protein receptor, type IA [Homo sapiens]
Synonyms	BMPR1A; bone morphogenetic protein receptor, type IA; ALK3; SKR5; CD292; ACVRLK3; 10q23del; OTTHUMP00000020014; activin A receptor, type II-like kinase 3; serine/threonine-protein kinase receptor; Bone morphogenetic protein receptor type-1A; EC 2.7.11.30; Serine/threonine-protein kinase receptor R5; Activin receptor-like kinase 3; ALK-3
Gene ID	657
mRNA Refseq	NM_004329

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Protein Refseq	NP_004320
MIM	601299
UniProt ID	P36894
Chromosome Location	10q22.3
Pathway	Cytokine-cytokine receptor interaction; TGF-beta signaling pathway; Signaling by BMP
Function	ATP binding; SMAD binding; magnesium ion binding; nucleotide binding; protein homodimerization activity; protein serine/threonine kinase activity; receptor activity; transferase activity; transforming growth factor beta receptor activity
PDB rendering based on 1es7	