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BMPR1A

Recombinant Human BMP type-1A Receptor, His-Tag

Catalog No.	CRB703-100	**Quantity:**	100 µg

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

Description: 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. BMPR1A is one of seven known type I serine/threonine kinases that are required for the signal transduction of the TGF-b family cytokines. In contrast to the TGF-b receptor system in which the type I receptor does not bind TGF-b in the absence of the type II receptor, type I receptors involved in BMP signaling (including BMPR1A, BMPR1B/ALK6, and ActR-I/ALK2) can independently bind the various BMP family proteins in the absence of type II receptors.
Recombinant soluble BMPR1A binds BMP2 and -4 with high-affinity in solution and is a potent BMP2/4 antagonist *in vitro*. BMPR1A is ubiquitously expressed during embryogenesis. In adult tissues, BMPR1A mRNA is also widely distributed, with the highest expression levels found in skeletal muscle. The extracellular domain of BMPR1A shares little amino acid sequence identity with the other mammalian ALK type I receptor kinases, but the cysteine residues are conserved. Human and mouse BMPR1A are highly conserved and share 98% sequence identity.

UniProt ID: P36894

Gene ID: 657

Source: Insect cells

Molecular Weight: 23 kDa monomer (135 aa)

Formulation: Lyophilized from a sterile filtered solution containing PBS

Purity: > 90% determined by SDS-PAGE visualized with silver stain

Endotoxin Level: < 1 EU/µg

Biological Activity: ED_{50} is typically 1-3 µg/ml, determined by the ability to inhibit recombinant human BMP2-induced (500 ng/nl) alkaline phosphatase production by C2C12 myogenic cells.

Reconstitution: **Centrifuge vial prior to opening.** Add sterile water to the vial to a concentration of 0.1 - 1.0 mg/mL. **Do not vortex.** After complete solubilization of the protein, it may be further diluted with other solutions containing a carrier protein such as 0.1 % BSA.

Storage & Stability: The lyophilized protein is stable at -20°C to -80° for up to 1 year. Reconstituted working aliquots are stable for 1 week at 2-8°C and for up to 6 months at -20°C to -80°C. **Avoid repeated freeze/thaw cycles.**

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