

Human BMP receptor-1A, soluble, His-Tag (InCs)

Synonyms: ALK3, SKR5, CD292, ACVRLK3, 10q23del, bone morphogenetic protein receptor, type IA

PLEASE NOTE: ALWAYS CENTRIFUGE VIAL BEFORE OPENING

Size	Order #	Lot #	Expiry Date
100 µg	1193.952.100		

Please enquire for bulk quantities and other vial sizes

Description

The extracellular domain of human BMPR-IA was fused with a carboxy-terminal 6X histidine-tag. The monomeric glycoprotein was expressed in baculovirus infected insect cells. 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 a 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-IA, BMPR-IB/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-IA binds BMP-2 and -4 with high-affinity in solution and is a potent BMP-2/4 antagonist in vitro. BMPR-IA is ubiquitously expressed during embryogenesis. In adult tissues, BMPR-IA mRNA is also widely distributed; with the highest expression levels found in skeletal muscle. The extracellular domain of BMPR-IA shares little amino acid sequence identity with the other mammalian ALK type I receptor kinases, but the cysteine residues are conserved. Human and mouse BMPR-IA are highly conserved and share 98% sequence identity.

- **Source** Insect cells
- **Purity** $\geq 90\%$ (SDS-PAGE, silver stained)

Biological 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

The lyophilized sBMPR-1A is soluble in water and most aqueous buffers and should be reconstituted in PBS or medium to a concentration not lower than 50µg/ml.

Amino Acid Sequence

QNLD SMLHGT GMKSDSDQKK SENGVTLAPE DTL PFLKCYC SGHCPDDAIN NTCITNGHCF AII EEDDQGE
TTLASGCMKY EGSD FQCKDS PKAQLRRTIE CCRTNL CNQY LQPTLPPVVI GPF FDGSIRH HHHHH

Usage: For research use only. Not for use in diagnostic or therapeutic procedures. Not for human use.

*The Buffer may vary depending on the Lot #. Please contact our technical support if you have specific requirements.

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