

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived		
	<div style="border: 1px solid black; padding: 5px; text-align: center;"> Mouse BMPR-IB (Leu2 - Lys126) Accession # P36898 </div>	DIEGRMD	<div style="border: 1px solid black; padding: 5px; text-align: center;"> Human IgG₁ (Pro100 - Lys330) </div>
	N-terminus		C-terminus

N-terminal Sequence Analysis	Leu2
Structure / Form	Disulfide-linked homodimer
Predicted Molecular Mass	40.6 kDa (monomer)

SPECIFICATIONS

SDS-PAGE	55 kDa, reducing conditions
Activity	Measured by its ability to inhibit rhBMP-4-induced alkaline phosphatase production by ATDC5 mouse chondrogenic cells. Nakamura, K. <i>et al.</i> (1999) Exp. Cell Res. 250 :351. The ED ₅₀ for this effect is 0.5-2 µg/mL in the presence of 30 ng/mL of rhBMP-4.
Endotoxin Level	<1.0 EU per 1 µg of the protein by the LAL method.
Purity	>90%, by SDS-PAGE under reducing conditions and visualized by silver stain.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 200 µg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 3 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

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 IB (BMPR-IB), also known as activin receptor-like kinase (ALK)-6, 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-IB binds BMP-4 with high-affinity in solution and is a potent BMP-4 antagonist *in vitro*. BMPR-IB is expressed in various tissues during embryogenesis. In adult tissues, BMPR-IB is only found in the brain. The extracellular domain of BMPR-IB 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-IB are highly conserved and share 98% sequence identity.

References:

1. Kawabata, M. *et al.* (1998) Cytokine and Growth Factor Reviews **9**:49.
2. Ebendal, T. *et al.* (1998) J. Neuroscience Research **51**:139.