

#### DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human BMPR-IA in Western blots. In Western blots, approximately 50% cross-reactivity with recombinant mouse (rm) BMPR-IA is observed and less than 5% cross-reactivity with rmBMPR-IB and recombinant human BMPR-II is observed.
<b>Source</b>	Polyclonal Goat IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant human BMPR-IA/ALK-3 Gln24-Arg152 Accession # P36894
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

#### APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Western Blot</b>	0.1 µg/mL	Recombinant Human BMPR-IA/ALK-3 Fc Chimera (Catalog # 315-BR)
<b>Flow Cytometry</b>	2.5 µg/10 <sup>6</sup> cells	PC-3 human prostate cancer cell line

#### PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.2 mg/mL in sterile PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<p><b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b></p> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

#### 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 IA (BMPR-IA), 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-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-4 with high-affinity in solution and is a potent BMP-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.

#### 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.