

**DESCRIPTION**

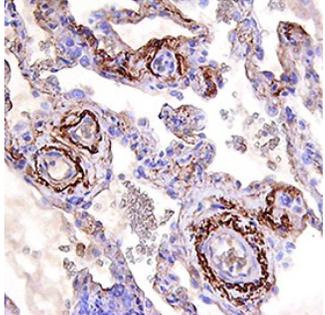
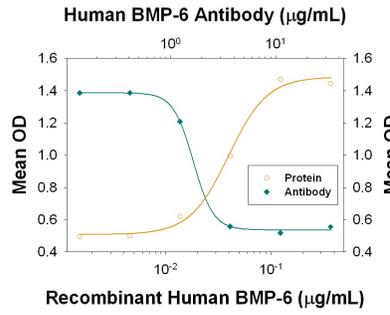
<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human BMP-6 in direct ELISAs and Western blots. In direct ELISAs, approximately 10% cross-reactivity with recombinant human (rh) BMP-7 is observed and less than 1% cross-reactivity with rhBMP-2, rhBMP-4, rhBMP-5mature, rhBMP-8A, and recombinant mouse BMP-6 is observed.
<b>Source</b>	Polyclonal Goat IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant human BMP-6 Gln382-His513 Accession # P22004
<b>Endotoxin Level</b>	<0.10 EU per 1 µg of the antibody by the LAL method.
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

**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 BMP-6 (Catalog # 507-BP)
<b>Immunohistochemistry</b>	5-15 µg/mL	See Below
<b>Neutralization</b>	Measured by its ability to neutralize BMP-6-induced alkaline phosphatase production in the ATDC5 mouse chondrogenic cell line. Asahina, I. <i>et al.</i> (1996) <i>Exp. Cell Res.</i> <b>222</b> :38. The Neutralization Dose (ND <sub>50</sub> ) is typically 0.75-3.75 µg/mL in the presence of 0.15 µg/mL Recombinant Human BMP-6 and 50 µg/mL L-ascorbic acid.	

**DATA**

<p><b>Immunohistochemistry</b></p>  <p><b>BMP-6 in Human Lung.</b> BMP-6 was detected in immersion fixed paraffin-embedded sections of human lung using Goat Anti-Human BMP-6 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF507) at 15 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Goat HRP-DAB Cell &amp; Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). Specific staining was localized to smooth muscle in vasculature. View our protocol for <a href="#">Chromogenic IHC Staining of Paraffin-embedded Tissue Sections</a>.</p>	<p><b>Neutralization</b></p>  <p><b>Alkaline Phosphatase Production Induced by BMP-6 and Neutralization by Human BMP-6 Antibody.</b> Recombinant Human BMP-6 (Catalog # 507-BP) induces alkaline phosphatase production in the ATDC5 mouse chondrogenic cell line in a dose-dependent manner (orange line). Alkaline phosphatase production elicited by Recombinant Human BMP-6 (0.15 µg/mL) is neutralized (green line) by increasing concentrations of Goat Anti-Human BMP-6 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF507). The ND<sub>50</sub> is typically 0.75-3.75 µg/ml in the presence of L-ascorbic acid (50 µg/mL).</p>
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**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. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <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

Human BMP-6 is one of at least 15 structurally and functionally related BMPs, which are members of the transforming growth factor  $\beta$  (TGF- $\beta$ ) superfamily. BMPs were originally identified as protein regulators of cartilage and bone formation. However, they have since been shown to be involved in embryogenesis and morphogenesis of various tissues and organs. BMPs have also been shown to regulate the growth, differentiation, chemotaxis and apoptosis of various cell types, including mesenchymal cells, epithelial cells, hematopoietic cells and neuronal cells. Similarly to other TGF- $\beta$  family proteins, BMPs are highly conserved across animal species. At the amino acid sequence level, mature human and mouse BMP-6 shares 96% amino acid sequence identity. BMP-6 is synthesized as a large precursor protein that is cleaved at the dibasic cleavage site (RXXR) to release the carboxy-terminal domain. Biologically active BMP-6 is a disulfide-linked homodimer of the carboxy-terminal 132 amino acid residues that contains the characteristic seven conserved cysteine residues involved in the formation of the cysteine knot and the single interchain disulfide bond. Cellular responses to BMP-6 have been shown to be mediated by the formation of hetero-oligomeric complexes of type I and type II serine/threonine kinase receptors. Based on amino acid sequence similarity, BMP-5, -6, -7 and -8 are in the same subgroup.

#### References:

1. Ebendal, T. *et al.* (1998) *J. Neurosci. Res.* **51**:139.
2. Reddi, A.H. (1998) *Nature Biotechnology* **16**:247.