

Product datasheet for **AP31724PU-L**

BMP7 Rabbit Polyclonal Antibody

Product data:

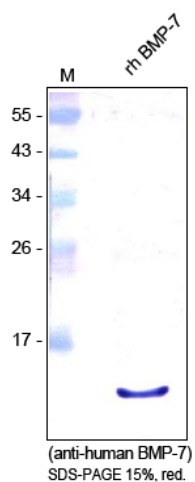
Product Type:	Primary Antibodies
Applications:	WB
Recommended Dilution:	Western Blot: 2-5 µg/ml
Reactivity:	Human
Host:	Rabbit
Isotype:	IgG
Clonality:	Polyclonal
Immunogen:	Highly pure (>95%) recombinant Human BMP-7 (Ala316-His431) derived from E. coli.
Specificity:	Recognizes Human BMP7.
Formulation:	PBS, pH 7.2 State: Purified State: Lyophilized purified IgG fraction
Reconstitution Method:	Centrifuge vial prior to opening. Restore in sterile water to a concentration of 0.1-1.0 mg/ml.
Purification:	Protein A Chromatography
Conjugation:	Unconjugated
Storage:	The lyophilized antibody is stable at RT for up to 1 month. The reconstituted antibody is stable for at least two weeks at 2-8°C. Frozen aliquots are stable for at least 6 months when stored at -20°C. Avoid repeated freeze-thaw cycles!
Gene Name:	bone morphogenetic protein 7
Database Link:	Entrez Gene 655 Human P18075



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Background:	<p>Bone morphogenetic protein 7 (BMP-7), also known as osteogenic protein 1 (OP1), is a widely expressed TGFβ superfamily member with important functions during embryogenesis, in the adult, and in disease (1,2). Human BMP-7 is synthesized with a 29 amino acid (aa) signal sequence, a 263 aa propeptide, and a 139 aa growth factor domain (3). The growth factor domain of human BMP-7 shares 98% aa sequence identity with mouse and rat BMP-7. The BMP-7 propeptide is cleaved intracellularly but often remains associated with the mature C-terminus. Based on in vivo and in vitro studies, BMP-7 has the potential to be secreted as a disulfide-linked mature homodimer, or particularly as a heteromeric complex that consists of two propeptides noncovalently associated with a mature disulfide linked homodimer (5,6). The presence of the propeptides in BMP-7 appears to stabilize the molecule and provide a docking mechanism for extracellular storage on molecules such as fibrillin1 and 2 (5,6). The propeptides themselves do not impart latency to the complex. BMP-7 binding to type II receptors rapidly displaces the prodomain: mature molecule interaction and has no effect on activity. But it is suggested that immobilized BMP-7 (via prodomain:fibrillin) is inactive, allowing for possible long term storage of the molecule (6). BMP-7 interacts with the type 2 receptors Activin RIIA, Activin RIIIB, and BMPRII and the type 1 receptors Activin RIA, BMPRIA, and BMPRIIB (2,6). BMP-7 may also be processed into a disulfide-linked heterodimer with either BMP-2 or BMP-4. Such complexes may show increased potency and range of activity compared to BMP7 homodimers (7-9). BMP-7 plays a role in a variety of organ systems. It promotes new bone formation and nephron development (10,11), inhibits the branching of prostate epithelium (12), and antagonizes epithelial mesenchymal transition (EMT) (13-15). In pathological conditions, BMP-7 inhibits tumor growth and metastasis (14), ameliorates fibrotic damage in nephritis (13), and promotes neuro regeneration following brain ischemia (16).</p>
Synonyms:	BMP-7, Bone morphogenetic protein 7, OP1, Osteogenic protein 1
Protein Families:	Adult stem cells, Cancer stem cells, Druggable Genome, Embryonic stem cells, ES Cell Differentiation/IPS, Induced pluripotent stem cells, Secreted Protein, Stem cell relevant signaling - TGF β /BMP signaling pathway
Protein Pathways:	Cytokine-cytokine receptor interaction, Hedgehog signaling pathway, TGF-beta signaling pathway

Product images:



Western Analysis of anti-Human BMP7 antibody. Sample was loaded in 15% SDS-polyacrylamide gel under reducing conditions. Left panel: Molecular Standard. Right panel: rh BMP-7 derived from E. coli.