



Anti-human BMP-7



FOR RESEARCH ONLY! NOT FOR HUMAN USE!

Cat.-no.:	102-PA92S
Size:	100 µg
Lot. No.:	According to product label
Country of origin:	Germany

Preparation: Produced from sera of rabbits pre-immunized with highly pure (>95%) recombinant human BMP-7 (Ala316-His431) produced in *E. coli*.

Target Background

Synonyms:	Bone morphogenic protein 7, Osteogenic protein 1
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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. Human BMP-7 is synthesized with a 29 amino acid (aa) signal sequence, a 263 aa propeptide, and a 139 aa growth factor domain. 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. 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. 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.

BMP-7 plays a role in a variety of organ systems. It promotes new bone formation and nephron development, inhibits the branching of prostate epithelium, and antagonizes epithelial mesenchymal transition (EMT). In pathological conditions, BMP-7 inhibits tumor growth and metastasis, ameliorates fibrotic damage in nephritis, and promotes neuro regeneration following brain ischemia.

References

1. Chen D et al, Growth Factors 22, 2004
2. Ozkaynak E et al, EMBO J 9, 1990
3. Celeste AJ et al, Proc Natl Acad Sci 87, 1990
4. Gregory KE et al, J Biol Chem 280, 2005
5. Sampath TK et al, J Biol Chem 267, 1992
6. Kazama I et al, J Am Soc Nephrol 19, 2008
7. Grishina IB et al, Dev Biol 288, 2005
8. Zeisberg M et al, Nat Med 9, 2003
9. Buijs JT et al, Am J Pathol 171, 2007
10. Yu MA et al, J Am Soc Nephrol 20, 2009

Database References Antigen

Protein RefSeq:	NP_001710.1
Uniprot ID:	P18075
mRNA RefSeq:	NM_001719.2

Product Specifications

Species reactivity	human
Clone/Ab feature	Rabbit IgG
Cross reactivity	ND
Host	rabbit
Clonality	polyclonal
Purification	Protein A purified
Immunogen	Recombinant human BMP-7
Formulation	lyophilized
Buffer	PBS

Stability: The lyophilized antibody is stable at room temperature 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.

Reconstitution: Centrifuge vial prior to opening. Reconstitute in sterile water to a concentration of 0.1-1.0 mg/ml.



AVOID REPEATED FREEZE AND THAW CYCLES!

Applications

Western Blot: Use at 2-5 µg/ml

NOTE: OPTIMAL DILUTIONS SHOULD BE DETERMINED BY EACH LABORATORY FOR EACH APPLICATION!



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Handling/Applications

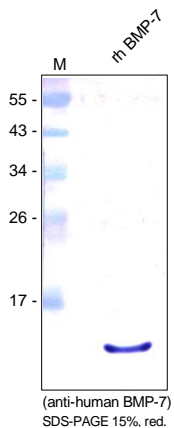


Figure 1. Western Analysis of anti-human BMP-7. Sample was loaded in 15% SDS-polyacrylamide gel under reducing conditions. Left panel: Molecular Standard; Right panel: rh BMP-7 derived from E. coli.