

# BMP-1 (A-20): sc-27324

## BACKGROUND

Bone morphogenic proteins (BMPs) are members of the TGF $\beta$  superfamily. BMPs are involved in the induction of cartilage and bone formation. *In vivo* studies have shown that BMP-2 (also designated BMP-2A) and BMP-3 can independently induce cartilage formation. BMP-1 is a metalloprotease that plays important roles in regulating the deposition of fibrous extracellular matrix in vertebrates, including provision of the procollagen C-proteinase activity that processes the major fibrillar collagens I-III. Smad3 association with the TGF $\beta$  receptor complex and Smad1 translocation to the nucleus are observed after the addition of BMP-4 (also designated BMP-2B), suggesting that BMP-4 may play a role in activation of the Smad pathway. BMP-5, BMP-6 and BMP-7 all share high sequence homology with BMP-2, indicating that they each may be able to induce cartilage formation. BMP-8 (also designated OP-2) is thought to be involved in early development, as detectable expression has not been found in adult organs. Human BMP-1 splice variants occur between residues 703 and 986 and include: BMP1-1, BMP1-4, BMP1-5, BMP1-6, BMP1-7.

## REFERENCES

1. Wozney, J.M., et al. 1988. Novel regulators of bone formation: molecular clones and activities. *Science* 242: 1528-1534.
2. Massague, J. 1990. The transforming growth factor- $\beta$  family. *Annu. Rev. Cell Biol.* 6: 597-641.
3. Celeste, A.J., et al. 1990. Identification of transforming growth factor  $\beta$  family members present in bone-inductive protein purified from bovine bone. *Proc. Natl. Acad. Sci. USA* 87: 9843-9847.

## CHROMOSOMAL LOCATION

Genetic locus: BMP1 (human) mapping to 8p21.3; Bmp1 (mouse) mapping to 14 D2.

## SOURCE

BMP-1 (A-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of BMP-1 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-27324 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

## APPLICATIONS

BMP-1 (A-20) is recommended for detection of precursor and mature BMP-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

BMP-1 (A-20) is also recommended for detection of precursor and mature BMP-1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for BMP-1 siRNA (h): sc-39736, BMP-1 siRNA (m): sc-39737, BMP-1 shRNA Plasmid (h): sc-39736-SH, BMP-1 shRNA Plasmid (m): sc-39737-SH, BMP-1 shRNA (h) Lentiviral Particles: sc-39736-V and BMP-1 shRNA (m) Lentiviral Particles: sc-39737-V.

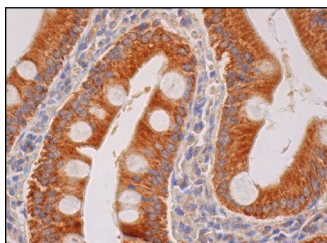
Molecular Weight of BMP-1 various forms: 32-98 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

## DATA



BMP-1 (A-20): sc-27324. Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing cytoplasmic staining of glandular cells.

## SELECT PRODUCT CITATIONS

1. Sertie, A.L., et al. 2010. Collybistin and gephyrin are novel components of the eukaryotic translation initiation factor 3 complex. *BMC Res. Notes* 3: 242.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.