SANTA CRUZ BIOTECHNOLOGY, INC.

BMP-3 (H-73): sc-9031

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Bone morphogenic proteins (BMPs) are members of the TGFβ 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. Smad3 association with the TGFβ 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.

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-β family. Annu. Rev. Cell Biol. 6: 597-641.

CHROMOSOMAL LOCATION

Genetic locus: BMP3 (human) mapping to 4q21.21, GDF10 (human) mapping to 10q11.22; Bmp3 (mouse) mapping to 5 E3, Gdf10 (mouse) mapping to 14 B.

SOURCE

BMP-3 (H-73) is a rabbit polyclonal antibody raised against amino acids 363-435 of BMP-3 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

BMP-3 (H-73) is recommended for detection of precursor and mature BMP-3 and BMP-3b of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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-3 (H-73) is also recommended for detection of precursor and mature BMP-3 and BMP-3b in additional species, including equine, canine, bovine, porcine and avian.

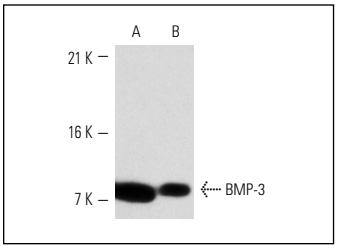
Suitable for use as control antibody for BMP-3 siRNA (h): sc-39740, BMP-3 siRNA (m): sc-39741, BMP-3 shRNA Plasmid (h): sc-39740-SH, BMP-3 shRNA Plasmid (m): sc-39741-SH, BMP-3 shRNA (h) Lentiviral Particles: sc-39740-V and BMP-3 shRNA (m) Lentiviral Particles: sc-39741-V.

Molecular Weight of BMP-3: 53/12 kDa.

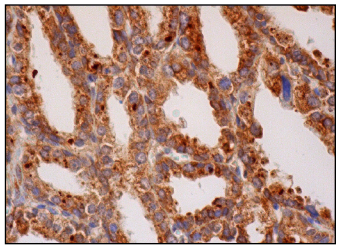
STORAGE

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

DATA



BMP-3 (H-73): sc-9031. Western blot analysis of human recombinant BMP-3 (**A**) and human recombinant BMP-3b (**B**).



BMP-3 (H-73): sc-9031. Immunoperoxidase staining of formalin fixed, paraffin-embedded human seminal vesicle tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Kloen, P., et al. 2002. Expression and activation of the BMP-signaling components in human fracture nonunions. J. Bone Joint Surg. Am. 84-A: 1909-1918.
2. Kloen, P., et al. 2003. BMP signaling components are expressed in human fracture callus. Bone 33: 362-371.
3. Ngo, T.Q., et al. 2006. Expression of bone morphogenic proteins and receptors at the injured growth plate cartilage in young rats. J. Histochem. Cytochem. 54: 945-954.
4. Bonner, C., et al. 2011. Bone morphogenetic protein 3 controls Insulin gene expression and is down-regulated in INS-1 cells inducibly expressing a hepatocyte nuclear factor 1A-maturity-onset diabetes of the young mutation. J. Biol. Chem. 286: 25719-25728.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

MONOS Satisfaction Guaranteed

Try **BMP-3 (C-9): sc-390046**, our highly recommended monoclonal alternative to BMP-3 (H-73).