

BMP-4 (66119.11): sc-73536

BACKGROUND

Bone morphogenic proteins (BMPs) are members of the TGF β 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 TGF β 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.
3. Celeste, A.J., et al. 1990. Identification of transforming growth factor β family members present in bone-inductive protein purified from bovine bone. *Proc. Natl. Acad. Sci. USA* 87: 9843-9847.
4. Ozkaynak, E., et al. 1992. Osteogenic protein-2. A new member of the transforming growth factor β superfamily expressed early in embryogenesis. *J. Biol. Chem.* 267: 25220-25227.
5. Gitelman, S.E., et al. 1994. Recombinant Vgr-1/BMP-6-expressing tumors induce fibrosis and endochondral bone formation *in vivo*. *J. Cell Biol.* 126: 1595-1609.
6. Liu, F., et al. 1996. A human Mad protein acting as a BMP-regulated transcriptional activator. *Nature* 381: 620-623.
7. Zhang, Y., et al. 1996. Receptor-associated Mad homologues synergize as effectors of the TGF β response. *Nature* 383: 168-172.
8. McPherron, A.C., et al. 1997. Regulation of skeletal muscle mass in mice by a new TGF β superfamily member. *Nature* 387: 83-90.

CHROMOSOMAL LOCATION

Genetic locus: BMP4 (human) mapping to 14q22.2; Bmp4 (mouse) mapping to 14 C1.

SOURCE

BMP-4 (66119.11) is a mouse monoclonal antibody raised against BMP-4 of human origin.

PRODUCT

Each vial contains 100 μ g IgG_{2b} in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

BMP-4 (66119.11) is recommended for detection of BMP-4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)].

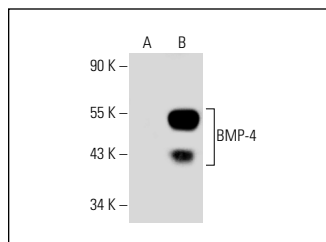
Suitable for use as control antibody for BMP-4 siRNA (h): sc-39744, BMP-4 siRNA (m): sc-39745, BMP-4 shRNA Plasmid (h): sc-39744-SH, BMP-4 shRNA Plasmid (m): sc-39745-SH, BMP-4 shRNA (h) Lentiviral Particles: sc-39744-V and BMP-4 shRNA (m) Lentiviral Particles: sc-39745-V.

Molecular Weight of BMP-4 precursor: 50 kDa.

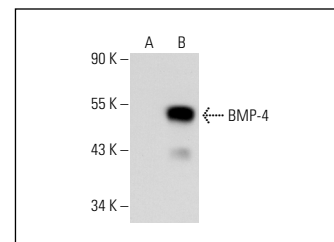
Molecular Weight of mature BMP-4: 23 kDa.

Positive Controls: BMP-4 (h): 293T Lysate: sc-113395 or BMP-4 (m): 293T Lysate: sc-118825.

DATA



BMP-4 (66119.11): sc-73536. Western blot analysis of BMP-4 expression in non-transfected: sc-117752 (A) and mouse BMP-4 transfected: sc-118825 (B) 293T whole cell lysates.



BMP-4 (66119.11): sc-73536. Western blot analysis of BMP-4 expression in non-transfected: sc-117752 (A) and human BMP-4 transfected: sc-113395 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Hoffmann, J.M., et al. 2020. BMP4 gene therapy enhances Insulin sensitivity but not adipose tissue browning in obese mice. *Mol. Metab.* 32: 15-26.

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 for detailed protocols and support products.

CONJUGATES

See **BMP-4 (3H2.3): sc-12721** for BMP-4 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor[®] 488, 546, 594, 647, 680 and 790.