

## BMP-9 (F-12): sc-27820

### BACKGROUND

Bone morphogenetic protein-9 (BMP-9), like other members of the TGF $\beta$  growth factor superfamily, plays an important role in tissue morphogenesis, particularly in bone and connective tissue. Additionally, liver cells such as HepG2 express receptors to BMP-9, through which it stimulates cell proliferation and regulates blood glucose concentration, an effect not observed in treatment with TGF $\beta$ . These *in vivo* activities appear to be exploitable in novel therapies; research shows that addition of BMP-9 or BMP-9 encoding adenoviral vectors promote bone formation *ex vivo* and in immune deficient animals.

### REFERENCES

1. Song, J.J., et al. 1995. Bone morphogenetic protein-9 binds to liver cells and stimulates proliferation. *Endocrinology* 136: 4293-4297.
2. Majumdar, M.K., et al. 2001. BMP-2 and BMP-9 promotes chondrogenic differentiation of human multipotential mesenchymal cells and overcomes the inhibitory effect of IL-1. *J. Cell. Physiol.* 189: 275-284.
3. Chen, C., et al. 2003. An integrated functional genomics screening program reveals a role for BMP-9 in glucose homeostasis. *Nat. Biotechnol.* 21: 294-301.
4. Dayoub, H., et al. 2003. Human mesenchymal stem cells transduced with recombinant bone morphogenetic protein-9 adenovirus promote osteogenesis in rodents. *Tissue Eng.* 9: 347-356.
5. Li, J.Z., et al. 2003. Osteogenic potential of five different recombinant human bone morphogenetic protein adenoviral vectors in the rat. *Gene Ther.* 10: 1735-1743.

### CHROMOSOMAL LOCATION

Genetic locus: GDF2 (human) mapping to 10q11.22, BMP10 (human) mapping to 2p13.3; Gdf2 (mouse) mapping to 14 B, Bmp10 (mouse) mapping to 6 D2.

### SOURCE

BMP-9 (F-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of BMP-9 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-27820 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-9 (F-12) is recommended for detection of precursor and mature BMP-9 and, to a lesser extent, BMP-10 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

BMP-9 (F-12) is also recommended for detection of precursor and mature BMP-9 and, to a lesser extent, BMP-10 in additional species, including equine, canine, bovine and porcine.

### 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.

### RESEARCH USE

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


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Try **BMP-9 (H-3): sc-514211** or **BMP-9 (E-2): sc-515249**, our highly recommended monoclonal alternatives to BMP-9 (F-12).