

BMP-2/4 (A-20): sc-6267

BACKGROUND

Tumor growth factor, or TGF β , is the prototypic member of a family of secreted proteins that regulate cellular proliferation and differentiation. Related proteins include the activins and the bone morphogenic proteins or BMPs. Like TGF β , the BMPs signal through a heteromeric receptor complex (TGF β R) composed of type I (TGF β RI) and type II (TGF β RII) receptors. Both the type I and the type II receptors contain an intrinsic serine/threonine kinase activity. Although signaling downstream of the TGF β R is poorly understood, several proteins have been implicated. Six TGF β /BMP effector proteins, designated Smad1-6, may function as tumor suppressors. Smad proteins have been suggested to be transcription factors, acting similarly to the Stat family which associates directly with activated receptors and then translocates to the nucleus. Evidence supporting this assertion is drawn from the observation that Smad3 physically associates with the TGF β R complex and that Smad1 is translocated to the nucleus 30-60 minutes after the addition of BMP-4.

SOURCE

BMP-2/4 (A-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of BMP-4 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-6267 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

BMP-2/4 (A-20) is recommended for detection of precursor and mature BMP-2 and BMP-4 and, to a lesser extent, BMP-8 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], 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); may cross-react with BMP-9, BMP-10 and Inhibin β -B.

BMP-2/4 (A-20) is also recommended for detection of precursor and mature BMP-2 and BMP-4 and, to a lesser extent, BMP-8 in additional species, including equine, canine, bovine, porcine and avian.

Molecular Weight of mature BMP-2: 54-56 kDa.

Molecular Weight of BMP-2 precursor: 14 kDa.

Molecular Weight of BMP-4 precursor: 25-27 kDa.

Molecular Weight of mature BMP-4: 14 kDa.

Positive Controls: BMP-4 (m): 293T Lysate: sc-118825 or HeLa whole cell lysate: sc-2200.

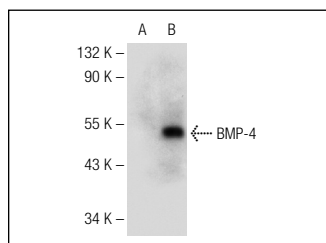
STORAGE

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

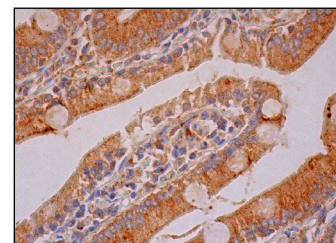
RESEARCH USE

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

DATA



BMP-2/4 (A-20): sc-6267. 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-2/4 (A-20): sc-6267. Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

- Li, H., et al. 1998. Growth hormone and Insulin-like growth factor I induce bone morphogenetic proteins 2 and 4: a mediator role in bone and tooth formation. *Endocrinology* 139: 3855-3862.
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- Drossopoulou, G., et al. 2000. A model for anteroposterior patterning of the vertebrate limb based on sequential long- and short-range Shh signalling and Bmp signalling. *Development* 127: 1337-1348.
- Tatsuyama, K., et al. 2000. Expression of various growth factors for cell proliferation and cytodifferentiation during fracture repair of bone. *Eur. J. Histochem.* 44: 269-278.
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- Bobinac, D., et al. 2005. Expression of bone morphogenetic proteins in human metastatic prostate and breast cancer. *Croat. Med. J.* 46: 389-396.
- Dahia, C.L., et al. 2009. Intercellular signaling pathways active during intervertebral disc growth, differentiation, and aging. *Spine* 34: 456-462.
- Chen, D.F., et al. 2011. BMP-I δ pathway targeted by cholesterol myristate suppresses the apoptosis of PC12 cells. *Brain Res.* 1367: 33-42.

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