SANTA CRUZ BIOTECHNOLOGY, INC.

BMP-7 (L-19): sc-9305

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.

CHROMOSOMAL LOCATION

Genetic locus: BMP7 (human) mapping to 20q13.31; Bmp7 (mouse) mapping to 2 H3.

SOURCE

BMP-7 (L-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of BMP-7 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.

Blocking peptide available for competition studies, sc-9305 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

BMP-7 (L-19) is recommended for detection of precursor and mature BMP-7 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

BMP-7 (L-19) is also recommended for detection of precursor and mature BMP-7 in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for BMP-7 siRNA (h): sc-39748, BMP-7 siRNA (m): sc-39749, BMP-7 shRNA Plasmid (h): sc-39748-SH, BMP-7 shRNA Plasmid (m): sc-39749-SH, BMP-7 shRNA (h) Lentiviral Particles: sc-39748-V and BMP-7 shRNA (m) Lentiviral Particles: sc-39749-V.

Molecular Weight of BMP-7: 55 kDa.

Positive Controls: F9 cell lysate: sc-2245, MIA PaCa-2 cell lysate: sc-2285 or NTERA-2 cl.D1 whole cell lysate: sc-364181.

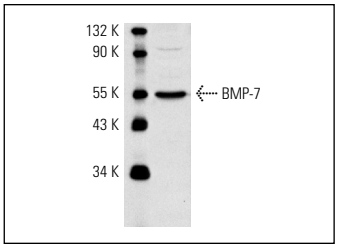
STORAGE

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-7 (L-19): sc-9305. Western blot analysis of BMP-7 expression in F9 whole cell lysate.

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. Chubinskaya, S., et al. 2002. Age-related changes in cartilage endogenous osteogenic protein-1 (OP-1). Biochim. Biophys. Acta 1588: 126-134.
3. Davies, S.R., et al. 2008. Bone morphogenetic proteins 1 to 7 in human breast cancer, expression pattern and clinical/prognostic relevance. J. Exp. Ther. Oncol. 7: 327-338.
4. Alarmo, E.L., et al. 2008. Bone morphogenetic protein 7 expression associates with bone metastasis in breast carcinomas. Ann. Oncol. 19: 308-314.
5. Rudkouskaya, A., et al. 2008. Two conventional protein kinase C isoforms, α and β I, are involved in the ATP-induced activation of volume-regulated anion channel and glutamate release in cultured astrocytes. J. Neurochem. 105: 2260-2270.
6. Ortega, J.A. and Alcántara, S. 2009. BDNF/MAPK/ERK-induced BMP7 expression in the developing cerebral cortex induces premature radial glia differentiation and impairs neuronal migration. Cereb. Cortex 20: 2132-2144.
7. Yu, Y.Y., et al. 2010. Immunolocalization of BMPs, BMP antagonists, receptors, and effectors during fracture repair. Bone 46: 841-851.
8. Jeyaraj, S.C., et al. 2010. Transcriptional control of human antigen R by bone morphogenetic protein. J. Biol. Chem. 285: 4432-4440.
9. Sun, L., et al. 2011. Protective effects of bone morphogenetic protein 7 against amyloid-beta induced neurotoxicity in PC12 cells. Neuroscience 184: 151-163.