

BMP-10 (G-15): sc-163745

BACKGROUND

Bone morphogenic proteins (BMPs) are members of the TGF β superfamily and are involved in the induction of cartilage and bone formation. BMP-10 (bone morphogenetic protein 10) is a 424 amino acid secreted protein that exists as a disulfide-linked homodimer. Expressed specifically in heart tissue, BMP-10 functions to prevent the premature activation of p57 (a negative cell cycle regulator), thereby maintaining the proliferative activity of embryonic cardiomyocytes and playing a critical role in the formation of trabeculae within the developing heart. Additionally, BMP-10 inhibits the growth and migration of endothelial cells and functions as a ligand for ALK-1, a protein that is tightly linked to angiogenesis. This suggests that, in addition to its role in cardiomyocyte formation, BMP-10 participates in the formation of blood vessels in developing cardiac muscle.

REFERENCES

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3. Teichmann, U. and Kessel, M. 2004. Highly restricted BMP-10 expression in the trabeculating myocardium of the chick embryo. *Dev. Genes Evol.* 214: 96-98.
4. Chen, H., Shi, S., Acosta, L., Li, W., Lu, J., Bao, S., Chen, Z., Yang, Z., Schneider, M.D., Chien, K.R., Conway, S.J., Yoder, M.C., Haneline, L.S., Franco, D. and Shou, W. 2004. BMP-10 is essential for maintaining cardiac growth during murine cardiogenesis. *Development* 131: 2219-2231.
5. Mazerbourg, S., Sangkuhl, K., Luo, C.W., Sudo, S., Klein, C. and Hsueh, A.J. 2005. Identification of receptors and signaling pathways for orphan bone morphogenetic protein/growth differentiation factor ligands based on genomic analyses. *J. Biol. Chem.* 280: 32122-32132.

CHROMOSOMAL LOCATION

Genetic locus: BMP10 (human) mapping to 2p13.3; Bmp10 (mouse) mapping to 6 D1.

SOURCE

BMP-10 (G-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of BMP-10 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-163745 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

BMP-10 (G-15) is recommended for detection of BMP-10 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); non cross-reactive with other BMP family members.

BMP-10 (G-15) is also recommended for detection of BMP-10 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for BMP-10 siRNA (h): sc-39758, BMP-10 siRNA (m): sc-39759, BMP-10 shRNA Plasmid (h): sc-39758-SH, BMP-10 shRNA Plasmid (m): sc-39759-SH, BMP-10 shRNA (h) Lentiviral Particles: sc-39758-V and BMP-10 shRNA (m) Lentiviral Particles: sc-39759-V.

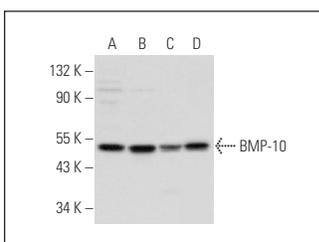
Molecular Weight of BMP-10: 48 kDa.

Positive Controls: HEK293 whole cell lysate: sc-45136, HL-60 whole cell lysate: sc-2209 or RT-4 whole cell lysate: sc-364257.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



BMP-10 (G-15): sc-163745. Western blot analysis of BMP-10 expression in HEK293 (A), HL-60 (B) and RT-4 (C) whole cell lysates and human tonsil tissue extract (D).

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 or our catalog for detailed protocols and support products.