



BMP2, Bone morphogenetic protein 2 polyclonal antibody

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Box 1 | Basic Info

Cat. No.	ABP-PAB-10442
Animal ID	RB2215/2216
Host	Rabbit
Reactivity	Human
Format	Purified
Accession number	NM_001200
Amount	100µg

Alternative Name(s):

bone morphogenetic protein 15, GDF9B, Bmp15

References:

1. Wong GA, Tang V, El-Sabeawy F, Weiss RH: BMP-2 inhibits proliferation of human aortic smooth muscle cells via p21Cip1/Waf1. *Am. J. Physiol. Endocrinol. Metab.* 284(5): 972-979 (2003).
2. Sieron AL, Louneva N, Fertala A: Site-specific interaction of bone morphogenetic protein 2 with procollagen II. *Cytokine* 18(4): 214-221 (2002).
3. Kawamura C, Kizaki M, Ikeda Y: Bone morphogenetic protein (BMP)-2 induces apoptosis in human myeloma cells. *Leuk. Lymphoma.* 43(3): 635-639 (2002). Review.
4. Lai CF, Cheng SL: Signal transductions induced by bone morphogenetic protein-2 and transforming growth factor-beta in normal human osteoblastic cells. *J. Biol. Chem.* 277(18): 15514-15522 (2002).
5. Champagne CM, Takebe J, Offenbacher S, Cooper LF: Macrophage cell lines produce osteoinductive signals that include bone morphogenetic protein-2. *Bone* 30(1): 26-31 (2002).
6. Wang EA, Rosen V, D'Alessandro JS, Bauduy M, Cordes P, Harada T, Israel DI, Hewick RM, Kerns KM, LaPan P, et al.: Recombinant human bone morphogenetic protein induces bone formation. *Proc. Natl. Acad. Sci. U S A.* 87(6): 2220-2224 (1990).
7. Tabas JA, Zasloff M, Wasmuth JJ, Emanuel BS, Altherr MR, McPherson JD, Wozney JM, Kaplan FS: Bone morphogenetic protein: chromosomal localization of human genes for BMP1, BMP2A, and BMP3. *Genomics* 9(2): 283-289 (1991).

Bone morphogenetic proteins (BMPs) were originally identified by an ability of demineralized bone extract to induce endochondral osteogenesis in vivo in an extraskel-etal site. All BMPs except BMP1 are members of the transforming growth factor-beta superfamily of secreted growth and differentiation factors and they signal through bone morphogenetic protein receptors (BMPRs), membrane-bound serine/threonine kinases. Bone morphogenetic protein 2 (BMP2) belongs to the transforming growth factor-beta (TGFB) superfamily factors that induce and control bone formation. BMP proteins are synthesized as prepropeptides, cleaved, and then processed into dimeric proteins. BMP2 binds to collagen II at a specific binding domain and has a role in embryo development, organogenesis, and regeneration of damaged tissues. It plays also a role in controlling normal and premature cranial ossification in humans. In addition to its growth promoting effects, BMP2 can have an antiproliferative effect, e.g., BMP2 inhibits proliferation of human aortic smooth muscle cells via the CDK inhibitor p21Cip1/Waf1. Furthermore, BMP2 can have an apoptotic effect on some cells as seen with human myeloma cells. BMP2 is a candidate gene for the autosomal dominant disease of fibrodysplasia (myositis) ossificans progressiva which promotes chondrogenic differentiation of multipotential mesenchymal cells.

Buffers

Purified rabbit polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column and eluted out with both high and low pH buffers and neutralized immediately after elution then followed by dialysis against PBS.

Immunogen

KLH conjugated synthetic peptide comprised of amino acids 86 - 102 [HSGQPGSPAPDHLERA] of the human bone morphogenetic protein 2 (BMP2) protein.

Application

Tested by peptide-specific ELISA (1:1,000). IHC (1:50 ~1:100)

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C. Avoid repeated freeze-thaw cycles.