ReliaTech GmbH

Specification/Data Sheet

Anti-Human BMP-2

20150223ML

FOR RESEARCH ONLY! NOT FOR HUMAN USE!

Cat.-no.:	**102-P03A**
Size:	100 µg
Lot. No.:	According to product label

Preparation: Produced from sera of rabbits pre-immunized with highly pure (>98%) recombinant hBMP-2 (human BMP-2). Anti-hBMP-2 specific antibody was purified by affinity chromatography employing immobilized hBMP-2 matrix.

Target Background

Synonyms (Target):	bone morphogenetic protein 2; BDA2; BMP2A; bone morphogenetic protein 4; ZYME; BMP2B; OFC11; BMP2B1; MCOPS6

Human BMP-2 is one of at least 15 structurally and functionally related BMPs, which are members of the transforming growth factor β (TGFβ) superfamily. BMPs were originally identified as protein regulators of cartilage and bone formation. However, they have since been shown to be involved in embryogenesis and morphogenesis of various tissues and organs. BMPs have also been shown to regulate the growth, differentiation, chemotaxis and apoptosis of various cell types, including mesenchymal cells, epithelial cells, hematopoietic cells and neuronal cells. Similarly to other TGFβ family proteins, BMPs are highly conserved across animal species. At the amino acid sequence level, mature human, mouse and rat BMP2 are 100% identical. BMP2 is synthesized as a large precursor protein that is cleaved at the dibasic cleavage site (RXXR) to release the carboxyterminal domain. Biologically active BMP 2 is a disulfidelinked homodimer of the carboxyterminal 114 amino acid residues that contains the characteristic seven conserved cysteine residues involved in the formation of the cysteine knot and the single interchain disulfide bond. Cellular responses to BMP2 have been shown to be mediated by the formation of heterooligomeric complexes of type I and type II serine/threonine kinase receptors. One BMP type II and two BMP type I receptors have been identified. In contrast to the TGFβ type I receptor, which does not bind the ligand in the absence of the TGFβ receptor type II, both BMP receptor type Is can bind BMP2 with highaffinity in the absence of BMP receptor type II.

Database References Target

Protein RefSeq:	NP_001191
Uniprot ID:	P12643
mRNA RefSeq:	NM_001200

Product Specifications

Species reactivity	Human
Clone/Ab feature	Rabbit IgG
Cross reactivity	Human
Host	Rabbit
Clonality	Polyclonal Antibody
Purification	Antigen-affinity purified
Immunogen	E.coli derived Recombinant Human BMP-2
Formulation	lyophilized from PBS
Reconstitution buffer	water

Reconstitution: Reconstitute the antibody in sterile water to a concentration of 0.1 - 1.0 mg/ml.

Stability: The lyophilized antibody is stable for at least 2 years from date of receipt at -20°C. The reconstituted antibody is stable for at least two weeks at 2-8°C. Frozen aliquots are stable for at least 6 months when stored at -20°C.

AVOID REPEATED FREEZE AND THAW CYCLES!

Applications

Neutralization: To yield one-half maximal inhibition [ND_{50}] of the biological activity of hBMP-2 (200ng/ml), a concentration of 1.3-1.9 µg/ml of this antibody is required.

Immunohistochemistry: This antibody stained formalin-fixed, paraffin-embedded sections of human colon/rectum adenocarcinoma. The recommended concentration is 0.25 µg/ml with an overnight incubation at 4°C. An HRP-labeled polymer detection system was used with a DAB chromogen. Heat induced antigen retrieval with a pH 6.0 sodium citrate buffer is recommended. Optimal concentrations and conditions may vary.

Sandwich ELISA: To detect hBMP-2 by sandwich ELISA (using 100 µl/well antibody solution) a concentration of 0.5 - 2.0 µg/ml of this antibody is required. This antigen affinity purified antibody, in conjunction with Biotinylated Anti-Human BMP-2 as a detection antibody, allows the detection of at least 0.2 - 0.4 ng/well of recombinant hBMP-2.

Western Blot: To detect hBMP-2 by Western Blot analysis this antibody can be used at a concentration of 0.1 - 0.2 µg/ml. Used in conjunction with compatible secondary reagents the detection limit for recombinant hBMP-2 is 1.5 - 3.0 ng/lane, under either reducing or non-reducing conditions.

NOTE: OPTIMAL DILUTIONS SHOULD BE DETERMINED BY EACH LABORATORY FOR EACH APPLICATION!