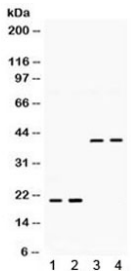
BMP2 Antibody / Osteogenic Growth Factor Antibody (R31949)

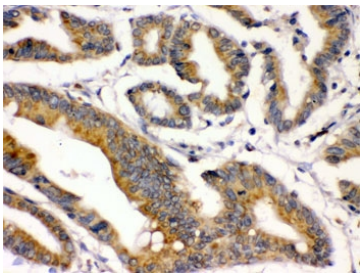
Catalog No.	Formulation	Size
R31949	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity
Buffer	Lyophilized from 1X PBS with 2.5% BSA, 0.025% sodium azide
UniProt	P12643
Localization	Cytoplasmic
Applications	Western Blot : 0.1-0.5ug/ml IHC (FFPE) : 0.5-1ug/ml ELISA : 0.1-0.5ug/ml (human protein tested); request BSA-free format for coating
Limitations	This BMP2 Antibody / Osteogenic Growth Factor Antibody is available for research use only.



BMP2 Antibody Multi-Species WB. Western blot analysis of 1) rat brain, 2) rat lung, 3) human U87, and 4) human HeLa lysates using BMP2 Antibody / Osteogenic Growth Factor Antibody demonstrates immunoreactive bands corresponding to multiple molecular forms of Bone Morphogenetic Protein 2 (BMP2). Bands are observed at approximately 22 kDa in rat brain and lung lysates and at approximately 44 kDa in human U87 and HeLa cell lysates. BMP2 is synthesized as a larger precursor protein that undergoes proteolytic processing and can exist in monomeric, dimeric, and precursor-associated forms, contributing to variability in apparent molecular weight. BMP2 functions as a member of the TGF-beta superfamily and plays critical roles in osteogenesis, skeletal development, tissue regeneration, and morphogenetic signaling. The observed immunoreactive species are consistent with the known post-translational processing and maturation of BMP2.



BMP2 Antibody Human Intestinal Cancer IHC. Immunohistochemistry staining of FFPE human intestinal cancer tissue using BMP2 Antibody / Osteogenic Growth Factor Antibody demonstrates moderate to strong cytoplasmic and membranous HRP-DAB brown staining within malignant epithelial cell populations forming glandular structures. The staining pattern is consistent with expression of Bone Morphogenetic Protein 2 (BMP2), a member of the TGF-beta superfamily that regulates cellular differentiation, tissue morphogenesis, growth factor signaling, and developmental pathways. Expression within tumor-associated epithelial cells is consistent with the established involvement of BMP signaling in epithelial biology, tissue remodeling, and regulation of cellular growth and differentiation. HIER: boil paraffin sections in pH 6, 10 mM citrate buffer for 20 minutes and allow to cool prior to staining.

Description

BMP2 Antibody / Osteogenic Growth Factor Antibody recognizes Bone Morphogenetic Protein 2 (BMP2), a secreted signaling molecule belonging to the transforming growth factor-beta (TGF-beta) superfamily. BMP2 functions as a potent developmental growth factor that regulates embryonic patterning, skeletal formation, tissue differentiation, and organ development. Through activation of BMP signaling pathways, BMP2 influences cellular proliferation, lineage commitment, and morphogenetic processes required for normal vertebrate development. BMP2 is one of the most extensively studied members of the BMP family due to its central role in osteogenesis and bone formation.

BMP2 is a critical regulator of skeletal development and promotes differentiation of mesenchymal stem cells into osteoblasts. Through these activities, BMP2 contributes to bone growth, remodeling, fracture repair, and maintenance of skeletal integrity. The protein has attracted considerable interest in developmental biology, regenerative medicine, and orthopedic research because of its ability to stimulate bone formation and tissue regeneration. Researchers frequently evaluate BMP2 expression when investigating osteogenesis, skeletal disorders, and regenerative processes.

Beyond its role in bone biology, BMP2 participates in numerous developmental signaling pathways that regulate formation of the cardiovascular system, nervous system, and other organ systems. BMP2-mediated signaling influences cell fate determination, tissue patterning, and morphogenesis throughout embryonic development. Altered BMP2 expression or signaling activity has been associated with developmental abnormalities, impaired tissue regeneration, and disease-related changes in cellular differentiation pathways. Consequently, BMP2 remains an important target in studies focused on developmental regulation and tissue homeostasis.

BMP2 signaling occurs through interactions with BMP receptors that activate intracellular SMAD-dependent and SMAD-independent pathways. These signaling networks coordinate transcriptional programs that govern growth, differentiation, and tissue remodeling. Because BMP2 occupies a central position within developmental and regenerative signaling cascades, it is widely used as a marker of osteogenic activity and growth factor-mediated tissue development. Continued investigation of BMP2 has expanded our understanding of the molecular mechanisms that control tissue formation and repair.

At NSJ Bioreagents, we provide highly validated antibodies for developmental biology, stem cell research, regenerative medicine, and cell signaling studies. BMP2 Antibody / Osteogenic Growth Factor Antibody is useful for investigating skeletal development, osteogenesis, tissue regeneration, developmental signaling, and morphogenetic processes. Ongoing research continues to reveal new roles for BMP2 in vertebrate development, tissue repair, and maintenance of physiological homeostasis.

Explore additional antibodies involved in cellular differentiation, developmental signaling, and tissue morphogenesis on our Cell Biology Antibodies page.

Application Notes

Optimal dilution of the BMP2 Antibody / Osteogenic Growth Factor Antibody should be determined by the researcher.

Immunogen

Amino acids QAKHKQRKRLKSSCKRHPLYVDFSDVGWND of human BMP2 were used as the immunogen for the BMP2 antibody.

Storage

After reconstitution, the BMP2 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

Bone Morphogenetic Protein 2 Antibody, Osteogenic Growth Factor Antibody, BMP-2 Antibody, TGF-Beta Superfamily Growth Factor Antibody, Bone Formation Protein Antibody, Skeletal Development Growth Factor Antibody

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