

BMP-2 Polyclonal Antibody
Catalog # AP73834**Specification****BMP-2 Polyclonal Antibody - Product Information**

Application	IF
Primary Accession	P12643
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal

BMP-2 Polyclonal Antibody - Additional Information

Gene ID 650

Other Names

BMP2; BMP2A; Bone morphogenetic protein 2; BMP-2; Bone morphogenetic protein 2A; BMP-2A

Dilution

IF~IF: 1:50-200 Western Blot: 1/500 - 1/2000. IHC-p: 1:100-1:300. ELISA: 1/10000. Not yet tested in other applications.

Format

Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide.

Storage Conditions

-20°C

BMP-2 Polyclonal Antibody - Protein Information**Name** BMP2**Synonyms** BMP2A**Function**

Growth factor of the TGF-beta superfamily that plays essential roles in many developmental processes, including cardiogenesis, neurogenesis, and osteogenesis (PubMed: [18436533](http://www.uniprot.org/citations/18436533), PubMed: [24362451](http://www.uniprot.org/citations/24362451), PubMed: [31019025](http://www.uniprot.org/citations/31019025)). Induces cartilage and bone formation (PubMed: [3201241](http://www.uniprot.org/citations/3201241)). Initiates the canonical BMP signaling cascade by associating with type I receptor BMPRI1A and type II receptor BMPRI2 (PubMed: [15064755](http://www.uniprot.org/citations/15064755), PubMed: [17295905](http://www.uniprot.org/citations/17295905), PubMed: [18436533](http://www.uniprot.org/citations/18436533)). Once all three components are bound together in a complex at the cell surface, BMPRI2 phosphorylates and activates BMPRI1A (PubMed: [7791754](http://www.uniprot.org/citations/7791754))

target="_blank">7791754). In turn, BMPR1A propagates signal by phosphorylating SMAD1/5/8 that travel to the nucleus and act as activators and repressors of transcription of target genes. Also acts to promote expression of HAMP, via the interaction with its receptor BMPR1A/ALK3 (PubMed:31800957). Can also signal through non-canonical pathways such as ERK/MAP kinase signaling cascade that regulates osteoblast differentiation (PubMed:16771708, PubMed:20851880). Also stimulates the differentiation of myoblasts into osteoblasts via the EIF2AK3-EIF2A-ATF4 pathway by stimulating EIF2A phosphorylation which leads to increased expression of ATF4 which plays a central role in osteoblast differentiation (PubMed:24362451). Acts as a positive regulator of odontoblast differentiation during mesenchymal tooth germ formation, expression is repressed during the bell stage by MSX1-mediated inhibition of CTNNB1 signaling (By similarity).

Cellular Location

Secreted.

Tissue Location

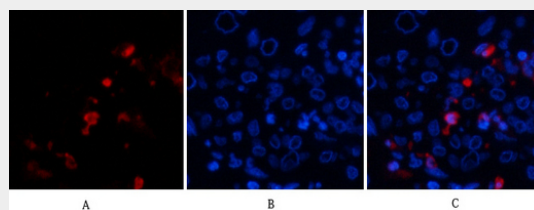
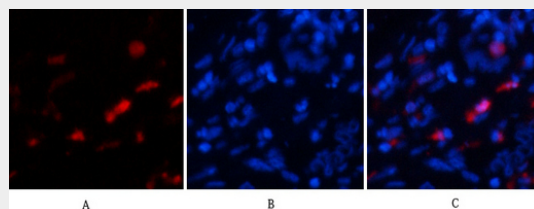
Particularly abundant in lung, spleen and colon and in low but significant levels in heart, brain, placenta, liver, skeletal muscle, kidney, pancreas, prostate, ovary and small intestine

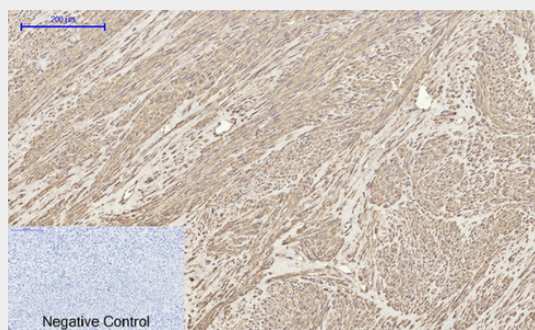
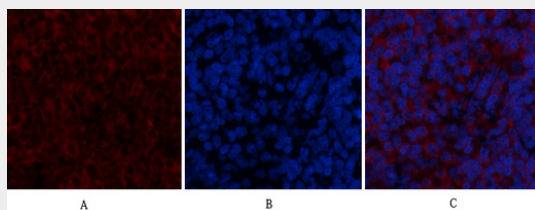
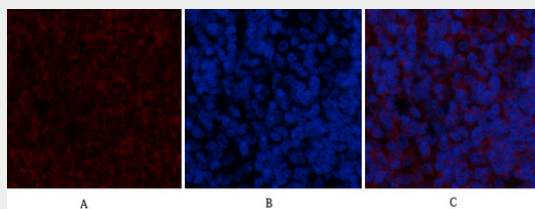
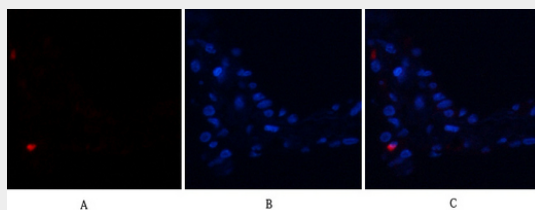
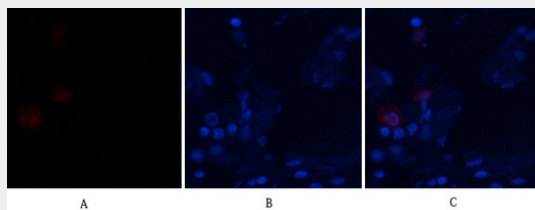
BMP-2 Polyclonal Antibody - Protocols

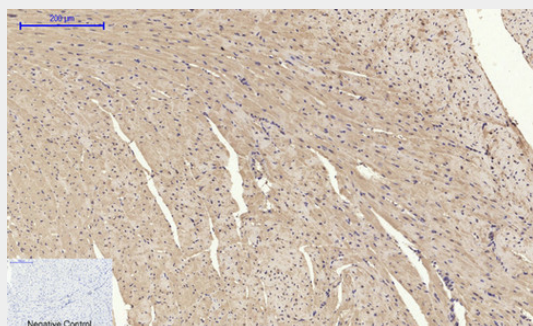
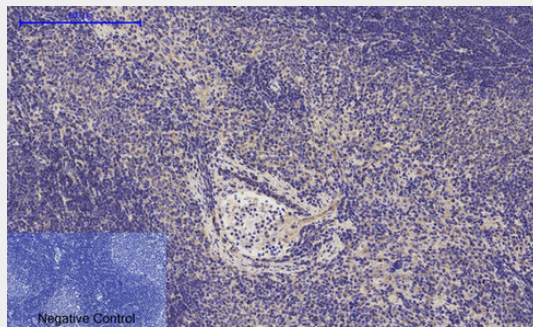
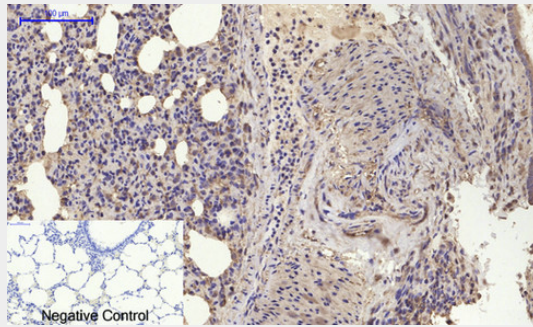
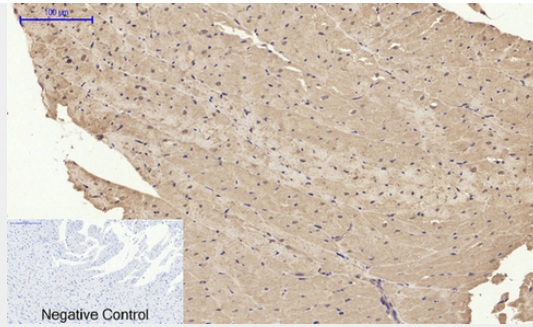
Provided below are standard protocols that you may find useful for product applications.

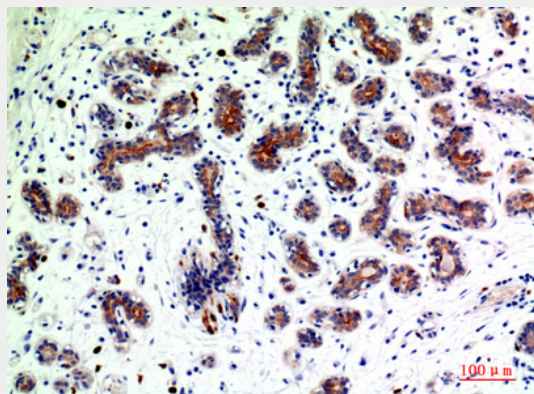
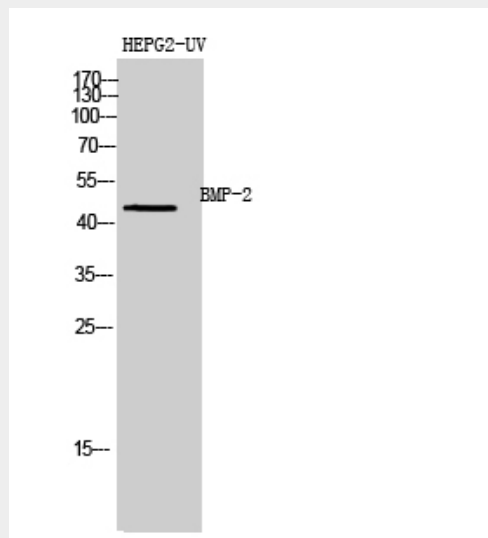
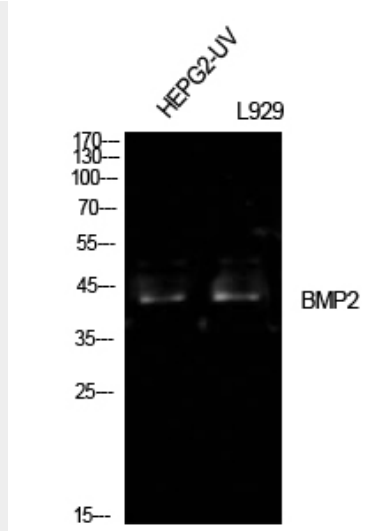
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

BMP-2 Polyclonal Antibody - Images









BMP-2 Polyclonal Antibody - Background

Induces cartilage and bone formation (PubMed:3201241). Stimulates the differentiation of myoblasts into osteoblasts via the EIF2AK3-EIF2A- ATF4 pathway. BMP2 activation of EIF2AK3

stimulates phosphorylation of EIF2A which leads to increased expression of ATF4 which plays a central role in osteoblast differentiation. In addition stimulates TMEM119, which upregulates the expression of ATF4 (PubMed:24362451).