

**BMP2 Antibody (clone AT15B3)**  
**Mouse Monoclonal Antibody**  
**Catalog # ALS16632****Specification**

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**BMP2 Antibody (clone AT15B3) - Product Information**

|                   |                        |
|-------------------|------------------------|
| Application       | IHC, WB                |
| Primary Accession | <a href="#">P12643</a> |
| Other Accession   | <a href="#">650</a>    |
| Reactivity        | Human                  |
| Host              | Mouse                  |
| Clonality         | Monoclonal             |
| Isotype           | IgG2b,k                |
| Calculated MW     | 44702                  |

**BMP2 Antibody (clone AT15B3) - Additional Information**

**Gene ID** 650

**Other Names**

BMP2, BDA2, BMP-2, BMP-2A, BMP2A, Bone morphogenetic protein 2, Bone morphogenetic protein 2A

**Target/Specificity**

Human BMP2 / BMP-2

**Reconstitution & Storage**

Supplied in PBS, pH 7.4, 10% glycerol, 0.02% sodium azide. Can be stored at 4°C. For long term storage, aliquot and store at -20°C. Avoid repeated freezing and thawing cycles.

**Precautions**

BMP2 Antibody (clone AT15B3) is for research use only and not for use in diagnostic or therapeutic procedures.

**BMP2 Antibody (clone AT15B3) - 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 BMPR1A and type II receptor BMPR2 (PubMed:<a href="http://www.uniprot.org/citations/15064755" target="\_blank">15064755</a>, PubMed:<a href="http://www.uniprot.org/citations/17295905" target="\_blank">17295905</a>, PubMed:<a href="http://www.uniprot.org/citations/18436533" target="\_blank">18436533</a>). Once all three components are bound together in a complex at the cell surface, BMPR2 phosphorylates and activates BMPR1A (PubMed:<a href="http://www.uniprot.org/citations/7791754" target="\_blank">7791754</a>). 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:<a href="http://www.uniprot.org/citations/31800957" target="\_blank">31800957</a>). Can also signal through non-canonical pathways such as ERK/MAP kinase signaling cascade that regulates osteoblast differentiation (PubMed:<a href="http://www.uniprot.org/citations/16771708" target="\_blank">16771708</a>, PubMed:<a href="http://www.uniprot.org/citations/20851880" target="\_blank">20851880</a>). 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:<a href="http://www.uniprot.org/citations/24362451" target="\_blank">24362451</a>). 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

**Volume**  
50 µl

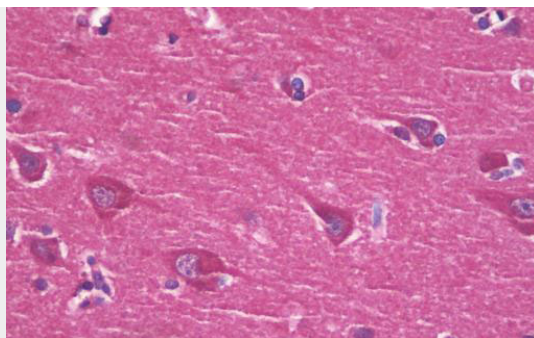
#### **BMP2 Antibody (clone AT15B3) - Protocols**

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

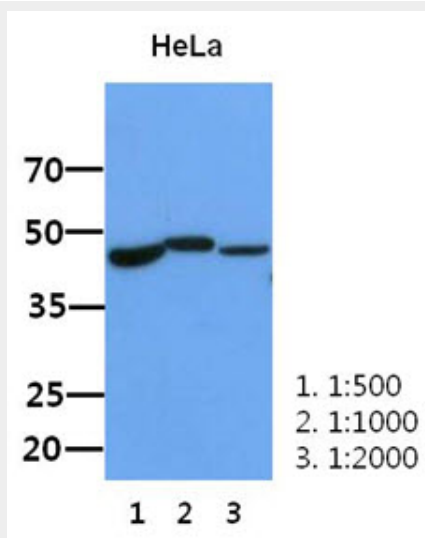
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

#### **BMP2 Antibody (clone AT15B3) - Images**





Anti-BMP2 antibody IHC staining of human brain, cortex.



Western Blot: The lysate of HeLa (30 ug) were resolved by SDS-PAGE, transferred to PVDF membrane...

#### **BMP2 Antibody (clone AT15B3) - Background**

Induces cartilage and bone formation.

#### **BMP2 Antibody (clone AT15B3) - References**

- Wozney J.M., et al. *Science* 242:1528-1534(1988).
- Shore E.M., et al. Submitted (DEC-1997) to the EMBL/GenBank/DDBJ databases.
- Deloukas P., et al. *Nature* 414:865-871(2001).
- Yeung B., et al. *Anal. Chem.* 69:2510-2516(1997).
- Yanagita M., et al. *Biochem. Biophys. Res. Commun.* 316:490-500(2004).