

Anti-BMP-7, clone 2A10

Monoclonal Antibody

Cat. # MAB4350

Lot # NG1618275

pack size: 100 µg

Store at 2-8°C
DO NOT FREEZE

FOR RESEARCH USE ONLY



Certificate of Analysis

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Applications	Species Cross-Reactivity	Antibody Isotype	Epitope/Region	Host Species	Molecular Weight	Accession #
WB, IH	H, M	IgG1κ	N/A	M	~46 kDa	P18075

Background

Bone morphogenetic protein-7 (BMP-7), also known as osteogenic protein-1, is a member of the TGF- superfamily, and is widely expressed during embryonic development. Like other members of the bone morphogenetic protein family, BMP-7 works synergistically with BMP-2 to play a key role in the differentiation of mesenchymal cells into bone and cartilage tissues by actively recruiting stem cells from the surrounding tissue, thereby initiating the bone formation cascade. In adult cells, BMP-7 is predominately expressed in the brain, kidneys, and bladder.

Presentation

Purified mouse monoclonal IgG_{1κ} in buffer containing 0.1 M Tris-Glycine (pH 7.4), 150 mM NaCl, and 0.05% sodium azide.

Concentration

1 mg/mL

Specificity

This monoclonal antibody recognizes BMP-7.

Species Cross-reactivity

Reacts with human and mouse. Reactivity with other species has not been tested.

Immunogen

Recombinant full-length BMP-7 protein.

Molecular Weight

~46 kDa

Method of Purification

Protein G Purification

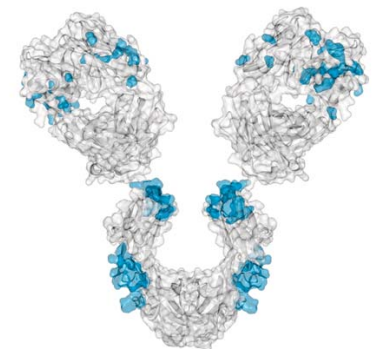
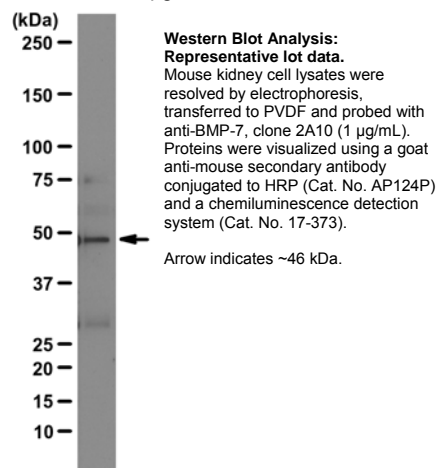
Storage and Handling

Maintain refrigerated at 2-8°C in undiluted aliquots for up to 12 months. Avoid repeat freeze/thaw cycles.

Research Applications

(Based upon representative data from a previous lot).

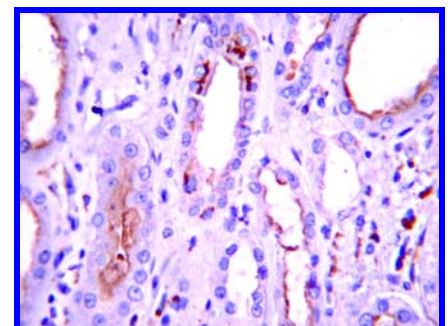
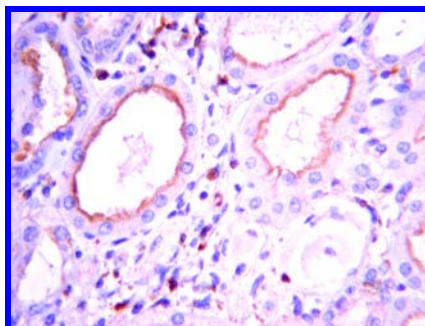
Western Blotting: Recommended working dilution is 1 – 2 µg/mL.



References

1. Lavery, K., *et al.* (2009). *Bone*. **45**(1):27-41.
2. Wang, L., *et al.* (2009). *IFMBE Proceedings*. **23**:1369-1372.
3. Knippenberg, M., *et al.* (2006). *Biochem Biophys Res Comm*. **342**(2):902-908.
4. Komaki, M., *et al.* (2004). *J Cell Science*. **117**:1457-1468.
5. Shea, C., *et al.* (2003). *Cell. Biochem*. **90**(6):1112-1127.

Immunocytochemistry: Recommended working dilution is 1:50.



Immunohistochemistry Analysis:

Staining of anti-BMP-7, clone 2A10 on normal human kidney medulla (left) and normal human kidney cortex (right). Tissue is first treated with a citrate buffer, pH 6.0 to facilitate antigen retrieval, and then stained with the primary monoclonal antibody at a 1:50 dilution. Cells were visualized using the IHCSelect® HRP/DAB Detection Kit (Cat. No. DAB050). As expected, immunoreactivity is seen through an epical membrane staining pattern. Images shown at low magnification.

APPLICATION LEGEND: WB Western Blotting IP Immunoprecipitation IC Immunocytochemistry IF Immunofluorescence

IH Immunohistochemistry (Tissue)

SPECIES LEGEND: H Human M Mouse R Rat Rb Rabbit WR Most Common Vertebrates () Predicted Reactivity

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PROTOCOL**Western Blotting:**

1. Perform SDS-polyacrylamide gel electrophoresis (SDS-PAGE) on a cell lysate or tissue sample (cell lysis buffer: 50 mM Tris-HCl, pH 7.4; 1% NP-40; 0.25% sodium deoxycholate; 150 mM NaCl; 1 mM EDTA; 1 mM PMSF; 1 µg/mL each aprotinin, leupeptin, pepstatin; 1 mM Na₃VO₄; 1 mM NaF) and transfer the proteins to PVDF (Immobilon-P). Wash the blotted PVDF (Immobilon-P) twice with Tris/0.05% Tween (TBST).
2. Block the blotted PVDF in freshly prepared TBST containing 5% nonfat dry milk (Catalog # 20-200) (or 5% BSA), for 30 minutes at room temperature with constant agitation.
3. Incubate the PVDF with 2 µg/mL of anti-BMP-7, clone 2A10, diluted in freshly prepared 5% TBST-MILK (or TBST-BSA) at room temperature for 2 hours (or overnight at 4°C) with agitation.
4. Wash the PVDF 3 times with TBST for 3-5 minutes each.
5. Incubate the PVDF in the secondary reagent of choice (a goat anti-mouse HRP conjugated IgG (H+L), Catalog # AP124P was used) in 5% TBST-MILK for 60 minutes at room temperature with agitation.
6. Wash the PVDF 3 times in TBST for 3-5 minutes each wash.
7. Use detection method of choice (enhanced chemiluminescence was used).

Immunohistochemistry:

1. Use standard deparaffinization techniques on tissue specimens.
2. Pretreat tissues using a citrate buffer, pH 6.0 and high heat epitope retrieval techniques. (Note: Do not allow tissues to dry out during the staining procedure).

The following steps are taken from the product manual for IHC Select[®] HRP/DAB Detection Kit (Cat. No. DAB050):

3. Apply the blocking reagent to the tissue specimen and incubate in an enclosed chamber for 5 minutes.
4. While holding the slide at a 45° angle, gently rinse the specimen with 1X Rinse Buffer for a minimum of 15 seconds. Tap the end of the slide onto a paper towel to remove excess Rinse Buffer.
5. Apply a recommended dilution of primary antibody over the entire tissue specimen and incubate in an enclosed chamber at room temperature for 60 minutes.
6. Rinse specimen as performed in Step 4.
7. Apply the biotinylated secondary antibody to the tissue specimen and incubate in an enclosed chamber for 10 minutes.
8. Rinse specimen as performed in Step 4.
9. Apply the Streptavidin-HRP solution to the tissue specimen and incubate in an enclosed chamber for 10 minutes.
10. Rinse specimen as performed in Step 4.
11. Apply the DAB (chromogen reagent) to the tissue specimen and incubate in an enclosed chamber for 10 minutes.
12. Rinse specimen as performed in Step 4.
13. Apply the Hematoxylin counterstain solution to the tissue specimen and incubate in an enclosed chamber for 1 minute.
14. Rinse specimen as performed in Step 4.
15. Place the tissue slides directly into a container filled with deionized water until mounting.
16. Mount a coverslip using an aqueous-based mounting media or for permanent mounting, dehydrate tissue through a graded series of alcohols, immerse in xylene, then apply a xylene-based mounting media (e.g. Permount) and coverslip.

RELATED PRODUCTS (specific)

cat #	description
MAB1049	■ Anti-Bone Morphogenetic Protein 4, clone 3H2
MAB1048	■ Anti-Bone Morphogenetic Protein 6, clone Morph-6.1
AB3743	■ Anti-OSTERIX, polyclonal
AB10212	■ Anti-IHH, polyclonal
AB10211	■ Anti-MSX2, polyclonal
AB2249	■ Anti-CRIM1, polyclonal
AB5729	■ Anti-Noggin, polyclonal

RELATED PRODUCTS (non-specific)

cat #	description
WBAVDATABASE	■ SNAP i.d. Protein Detection System
WBAVDABTR	■ SNAP i.d. Antibody Collection Tray
WBAVDROLL	■ SNAP i.d. Blot Roller
WBAVDBH03	■ SNAP i.d. Triple Well Blot Holder
WBAVDBH01	■ SNAP i.d. Single Well Blot Holder
WBAVDBH02	■ SNAP i.d. Double Well Blot Holder
IPVH00010	■ Immobilon-P 26.5 cm x 3.75 m Roll PVDF 0.45 µm
IPFL00010	■ Immobilon-FL 26.5 cm x 3.75 m Roll PVDF 0.45 µm
IPVH07850	■ Immobilon-P 7 x 8.4 cm PVDF 0.45 mm (sheet) 50/pk
ISEQ00010	■ Immobilon-P SQ 26.5 cm x 3.75 m 1 roll PVDF 0.2 µm
ISEQ07850	■ Immobilon-P 7 x 8.4 cm PVDF 0.2 mm (sheet) 50/pk
IPFL07810	■ Immobilon-FL 7 x 8.4 cm PVDF 0.45 mm (sheet) 10/pk
WBKLS0100	■ Immobilon Western Chemilum HRP Substrate 100 mL
17-373	■ Spray & Glow™ ECL WB Detection System 1 ea
2060	■ Re-Blot Western Blot Recycling Kit
2500	■ Re-Blot Plus Western Blot Recycling Kit
B2080-175GM	■ Blot Quick Blocker Membrane Blocking Agent 175G

■ antibodies ■ Multiplex products ■ biotools ■ cell culture ■ enzymes ■ kits ■ proteins/peptides ■ siRNA/cDNA products

Please visit www.millipore.com for additional product information, test data and references

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