

## Product datasheet

# Anti-BMP4 antibody ab39973

★★★★☆ 11 Abreviews 37 References 5 Images

### Overview

<b>Product name</b>	Anti-BMP4 antibody
<b>Description</b>	Rabbit polyclonal to BMP4
<b>Host species</b>	Rabbit
<b>Tested applications</b>	<b>Suitable for:</b> WB, IHC-P, IHC-Fr, ICC/IF
<b>Species reactivity</b>	<b>Reacts with:</b> Mouse, Rat, Human <b>Predicted to work with:</b> Cow, Pig
<b>Immunogen</b>	Synthetic peptide conjugated to KLH derived from within residues 50 - 150 of Human BMP4. Read Abcam's proprietary immunogen policy (Peptide available as <a href="#">ab40140</a> .)
<b>Positive control</b>	<div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 5px;"> <p>Purchase matching WB positive control: <b>Recombinant Human BMP4 protein</b> &gt;</p> </div> <p>ab39973 gave a positive signal in the following Tissue Lysates: Brain (Human), Brain (Mouse), Liver (Human), Heart (Human) and Skeletal Muscle (Human).</p>

### Properties

<b>Form</b>	Liquid
<b>Storage instructions</b>	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.
<b>Storage buffer</b>	Preservative: 0.02% Sodium Azide Constituents: 1% BSA, PBS, pH 7.4
<b>Purity</b>	Immunogen affinity purified
<b>Clonality</b>	Polyclonal
<b>Isotype</b>	IgG

### Applications

Our [Abpromise guarantee](#) covers the use of **ab39973** in the following tested applications.

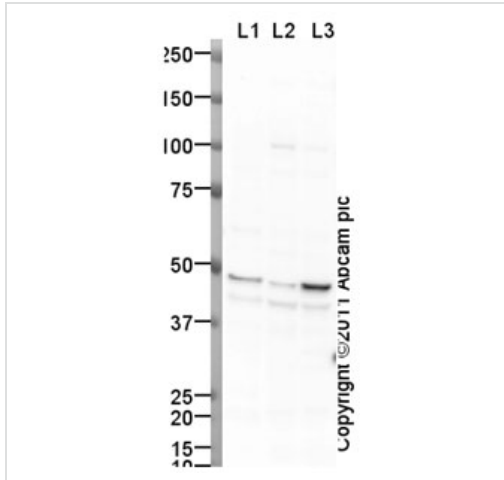
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB	★★★★☆	Use a concentration of 1 µg/ml. Detects a band of approximately 47 kDa (predicted molecular weight: 47 kDa).
IHC-P	★★★★☆	Use at an assay dependent concentration. Perform heat mediated antigen retrieval before commencing with IHC staining protocol.
IHC-Fr		Use at an assay dependent concentration. PubMed: 24376809
ICC/IF	★★★★★	Use a concentration of 1 µg/ml.

## Target

<b>Function</b>	Induces cartilage and bone formation. Also act in mesoderm induction, tooth development, limb formation and fracture repair. Acts in concert with PTHLH/PTHRP to stimulate ductal outgrowth during embryonic mammary development and to inhibit hair follicle induction.
<b>Tissue specificity</b>	Expressed in the lung and lower levels seen in the kidney. Present also in normal and neoplastic prostate tissues, and prostate cancer cell lines.
<b>Involvement in disease</b>	<p>Defects in BMP4 are the cause of microphthalmia syndromic type 6 (MCOPS6) [MIM:607932]; also known as microphthalmia and pituitary anomalies or microphthalmia with brain and digit developmental anomalies. Microphthalmia is a clinically heterogeneous disorder of eye formation, ranging from small size of a single eye to complete bilateral absence of ocular tissues (anophthalmia). In many cases, microphthalmia/anophthalmia occurs in association with syndromes that include non-ocular abnormalities. MCOPS6 is characterized by microphthalmia/anophthalmia associated with facial, genital, skeletal, neurologic and endocrine anomalies.</p> <p>Defects in BMP4 are the cause of non-syndromic orofacial cleft type 11 (OFC11) [MIM:600625]. Non-syndromic orofacial cleft is a common birth defect consisting of cleft lips with or without cleft palate. Cleft lips are associated with cleft palate in two-third of cases. A cleft lip can occur on one or both sides and range in severity from a simple notch in the upper lip to a complete opening in the lip extending into the floor of the nostril and involving the upper gum. OFC11 is an unusual anomaly consisting of a paramedian scar of the upper lip with an appearance suggesting that a typical cleft lip was corrected in utero.</p>
<b>Sequence similarities</b>	Belongs to the TGF-beta family.
<b>Cellular localization</b>	Secreted > extracellular space > extracellular matrix.

## Images



Western blot - Anti-BMP4 antibody (ab39973)

**All lanes :** Anti-BMP4 antibody (ab39973) at 1 µg/ml

**Lane 1 :** Human brain tissue lysate - total protein (ab29466)

**Lane 2 :** Brain (Mouse) Tissue Lysate

**Lane 3 :** Brain (Rat) Tissue Lysate

Lysates/proteins at 10 µg per lane.

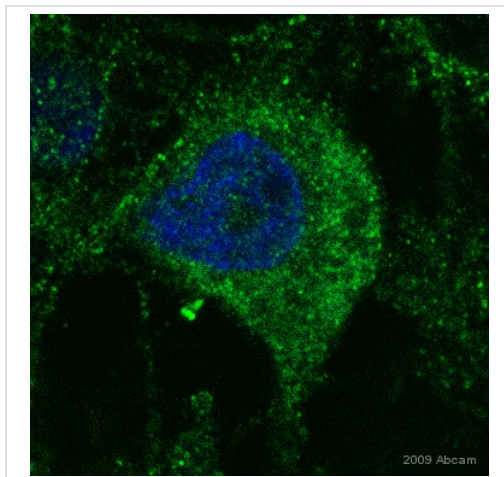
### Secondary

**All lanes :** Goat Anti-Rabbit IgG H&L (HRP) preadsorbed (ab97080) at 1/5000 dilution

**Predicted band size:** 47 kDa

**Observed band size:** 47 kDa

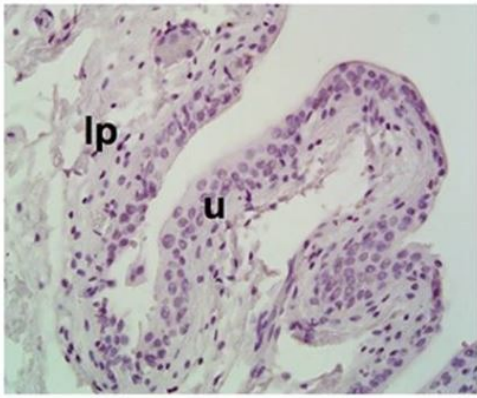
**Additional bands at:** 42 kDa. We are unsure as to the identity of these extra bands.



Immunocytochemistry/ Immunofluorescence - Anti-BMP4 antibody (ab39973)

This image is courtesy of Ruma Raha-Chowdhury, University Of Cambridge, United Kingdom

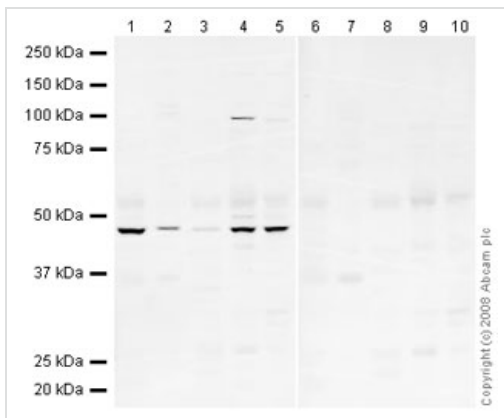
ICC/IF image of ab39973 staining primary hippocampal neurons. The cells were 4% PFA fixed (10 min) and then incubated in 1%BSA / 5% normal donkey serum / 0.3M glycine in 0.1% PBS-Tritonx100 for 1h to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab39973, 1µg/ml) overnight at +4°C. The secondary antibody (green) was Alexa Fluor® 488donkey anti-rabbit IgG (H+L) used at a 1/1000 dilution for 1h. DAPI was used to stain the cell nuclei (blue) at a concentration of 1.43µM.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-BMP4 antibody (ab39973)

Image from Peyton, Charles C. et al. PLoS ONE 7.10 (2012): e47414. PMC. doi: 10.1371/journal.pone.0047414. Fig 7.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of rat bladder tissue sections labeling BMP4 with ab39973 at 1/100 dilution. The tissue was fixed in 10% buffered formalin overnight, processed and embedded in paraffin. Serial 6  $\mu$ m sagittal tissue sections were sliced along the cranial-caudal axis of the bladder. (**u**) urothelium; (**lp**) lamina propria.



Western blot - Anti-BMP4 antibody (ab39973)

**All lanes** : Anti-BMP4 antibody (ab39973) at 1  $\mu$ g/ml

**Lane 1** : Human brain tissue lysate - total protein (ab29466)

**Lane 2** : Brain (Mouse) Mouse Tissue Lysate

**Lane 3** : Human liver tissue lysate - total protein (ab29889)

**Lane 4** : Human heart tissue lysate - total protein (ab29431)

**Lane 5** : Human skeletal muscle tissue lysate - total protein (ab29330)

**Lane 6** : Human brain tissue lysate - total protein (ab29466) with Human BMP4 peptide (ab40140) at 1  $\mu$ g/ml

**Lane 7** : Brain (Mouse) Mouse Tissue Lysate with Human BMP4 peptide (ab40140) at 1  $\mu$ g/ml

**Lane 8** : Human liver tissue lysate - total protein (ab29889) with Human BMP4 peptide (ab40140) at 1  $\mu$ g/ml

**Lane 9** : Human heart tissue lysate - total protein (ab29431) with Human BMP4 peptide (ab40140) at 1  $\mu$ g/ml

**Lane 10** : Human skeletal muscle tissue lysate - total protein (ab29330) with Human BMP4 peptide (ab40140) at 1  $\mu$ g/ml

Lysates/proteins at 10  $\mu$ g per lane.

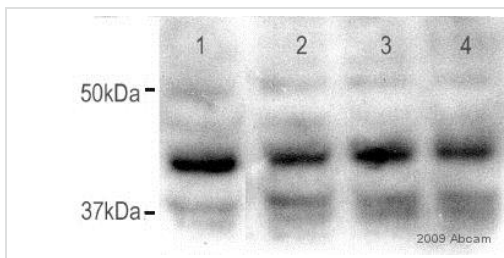
### Secondary

**All lanes** : IRDye 680 Conjugated Goat Anti-Rabbit IgG (H+L) at 1/10000 dilution

Performed under reducing conditions.

**Predicted band size:** 47 kDa

ab39973 detects a 47kDa band that we believe corresponds to the pre-cleaved form of BMP4 with the immunizing peptide raised against a region located in the propeptide. Abcam welcomes customer feedback and would appreciate any comments regarding this product and the data presented above.



Western blot - Anti-BMP4 antibody (ab39973)

This image is courtesy of Ruma Raha-Chowdhury, University Of Cambridge, United Kingdom

**All lanes :** Anti-BMP4 antibody (ab39973) at 1/1000 dilution

**All lanes :** mouse brain

Lysates/proteins at 20 µg per lane.

#### **Secondary**

**All lanes :** Dako Cytomation P0260

Conjugation: HRP at 1/3000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

**Predicted band size:** 47 kDa

**Exposure time:** 1 minute

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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