

# BMPR2 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP2006a

## Product Information

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<b>Application</b>	WB, IHC-P, FC, E
<b>Primary Accession</b>	<a href="#">Q13873</a>
<b>Other Accession</b>	<a href="#">O35607</a>
<b>Reactivity</b>	Human, Mouse, Rat
<b>Host</b>	Rabbit
<b>Clonality</b>	Polyclonal
<b>Isotype</b>	Rabbit IgG
<b>Calculated MW</b>	115201
<b>Antigen Region</b>	28-59

## Additional Information

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<b>Gene ID</b>	659
<b>Other Names</b>	Bone morphogenetic protein receptor type-2, BMP type-2 receptor, BMPR-2, Bone morphogenetic protein receptor type II, BMP type II receptor, BMPR-II, BMPR2, PPH1
<b>Target/Specificity</b>	This BMPR2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 28-59 amino acids from the N-terminal region of human BMPR2.
<b>Dilution</b>	WB~~1:1000 IHC-P~~1:100~500 FC~~1:10~50 E~~Use at an assay dependent concentration.
<b>Format</b>	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
<b>Storage</b>	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
<b>Precautions</b>	BMPR2 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

## Protein Information

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<b>Name</b>	BMPR2
<b>Synonyms</b>	PPH1

<b>Function</b>	On ligand binding, forms a receptor complex consisting of two type II and two type I transmembrane serine/threonine kinases. Type II receptors phosphorylate and activate type I receptors which autophosphorylate, then bind and activate SMAD transcriptional regulators. Can also mediate signaling through the activation of the p38MAPK cascade (PubMed: <a href="#">12045205</a> ). Binds to BMP7, BMP2 and, less efficiently, BMP4. Binding is weak but enhanced by the presence of type I receptors for BMPs. Mediates induction of adipogenesis by GDF6. Promotes signaling also by binding to activin A/INHBA (PubMed: <a href="#">24018044</a> ).
<b>Cellular Location</b>	Cell membrane; Single-pass type I membrane protein
<b>Tissue Location</b>	Highly expressed in heart and liver.

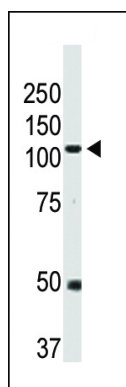
## Background

BMPR2 is a member of the bone morphogenetic protein (BMP) receptor family of transmembrane serine/threonine kinases. The ligands of this receptor are BMPs, which are members of the TGF-beta superfamily. BMPs are involved in endochondral bone formation and embryogenesis. These proteins transduce their signals through the formation of heteromeric complexes of 2 different types of serine (threonine) kinase receptors: type I receptors of about 50-55 kD and type II receptors of about 70-80 kD. Type II receptors bind ligands in the absence of type I receptors, but they require their respective type I receptors for signaling, whereas type I receptors require their respective type II receptors for ligand binding. Mutations in BMPR2 have been associated with primary pulmonary hypertension.

## References

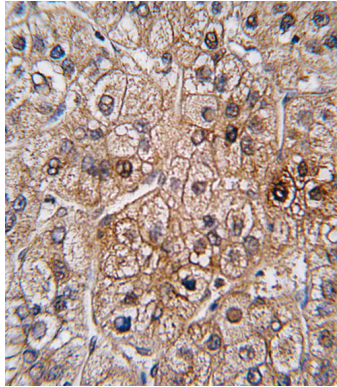
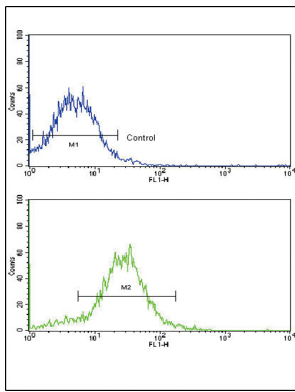
Pouliot, F., et al., *Cancer Res.* 63(2):277-281 (2003). Nishihara, A., et al., *Mol. Biol. Cell* 13(9):3055-3063 (2002). Humbert, M., et al., *Eur Respir J* 20(3):518-523 (2002). Vitt, U.A., et al., *Biol. Reprod.* 67(2):473-480 (2002). Nohe, A., et al., *J. Biol. Chem.* 277(7):5330-5338 (2002).

## Images



Western blot analysis of anti-BMPR2 Pab (Cat. #ap2006a) in mouse heart tissue lysate. BMPR2 (arrow) was detected using purified Pab. Secondary HRP-anti-rabbit was used for signal visualization with chemiluminescence.

Flow cytometric analysis of HepG2 cells using BMPR2 Antibody (N-term)(bottom histogram) compared to a negative control cell (top histogram). FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.



Formalin-fixed and paraffin-embedded human hepatocarcinoma tissue reacted with BMPR2 antibody (N-term), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.

## Citations

- [BMP-dependent, injury-induced stem cell niche as a mechanism of heterotopic ossification.](#)
- [Expression of gremlin, a bone morphogenetic protein antagonist, is associated with vascular calcification in uraemia.](#)
- [Dysfunction of Golgi tethers, SNAREs, and SNAPs in monocrotaline-induced pulmonary hypertension.](#)
- [The BMP type II receptor is located in lipid rafts, including caveolae, of pulmonary endothelium in vivo and in vitro.](#)
- [Roles of miR-1-1 and miR-181c in ventricular septal defects.](#)
- [Binding of carbon nanotube to BMP receptor 2 enhances cell differentiation and inhibits apoptosis via regulating bHLH transcription factors.](#)
- [BMP signaling induces astrocytic differentiation of clinically derived oligodendrogloma propagating cells.](#)

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