



Qty: 100µg/400 µL

Rabbit anti-BMPR-1A

Catalog No. 38-6000

Lot No.

Rabbit anti-BMPR-1A

FORM

This polyclonal antibody is supplied as a 400 µL aliquot at a concentration of 0.25 mg/mL in phosphate buffered saline (pH 7.4) containing 0.1% sodium azide. This antibody is epitope-affinity purified from rabbit antiserum.

PAD: ZMD.393

IMMUNOGEN

Synthetic peptide derived from an internal region of the human BMPR-1A (bone morphogenetic protein receptor type 1A, Serine/threonine protein kinase receptor R5 (SKR5), activin receptor-like kinase-3 (ALK-3)), which differs from mouse and rat BMPR-1A by one nonconservative amino acid replacement.

SPECIFICITY

This antibody is specific for human BMPR-1A. On Western blots, it identifies the target band at ~60 kDa.

REACTIVITY

Reactivity has been confirmed with human SK-OV-3, NGP96, SKMEL-19, SK-MEL-37, A375, MeWo cell lysates and mouse ovary homogenates. Based on amino acid sequence homology, reactivity with rat is also expected.

Sample	Immuno-precipitation*	Western Blotting
Human	+++	+++
Mouse	ND	++

(Excellent +++, Good++, Poor +, No reactivity 0, Not applicable N/A, Not Determined ND)

*Blocks adhesion

USAGE

Working concentrations for specific applications should be determined by the investigator. Appropriate concentrations will be affected by several factors, including secondary antibody affinity, antigen concentration, sensitivity of detection method, temperature and length of incubations, etc. The suitability of this antibody for applications other than those listed below has not been determined. The following concentration ranges are recommended starting points for this product.

Immunoprecipitation : 7 µg/reaction

Western Blotting : 1-3 µg/mL

STORAGE

Store at 2-8°C for up to one month. Store at -20°C for long-term storage. Avoid repeated freezing and thawing.

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Background

Bone Morphogenetic Proteins (BMPs) are members of the TGF- β superfamily of cytokines that affect bone and cartilage formation¹. Mature BMPs are 30-38 kDa proteins that assume a TGF beta-like cysteine knot configuration¹. Most BMPs are homodimers, but bioactive natural heterodimers have also been reported¹. BMPs are involved in embryogenesis and morphogenesis of various tissues and organs. They create an environment conducive for bone marrow development by stimulating the production of specific bone matrix proteins and altering stromal cell and osteoclast proliferation. BMPs also regulate the growth, differentiation, chemotaxis, proliferation, and apoptosis of mesenchymal cells, epithelial cells, hematopoietic cells, and neuronal cells, and are responsible for normal dorsal/ventral patterning.

Two type I receptors have been characterized, BMPR-IA (also designated activin receptor-like kinase ALK-3, BRK-1 and SKR5), and BMPR-IB (also designated ALK-6 and SKR 6), that bind to bone morphogenetic proteins (BMP)-2, BMP-4, and osteogenic protein (OP)-1 (also designated BMP-7)²⁻⁵. Type I receptors involved in BMP signaling can independently bind the various BMP family proteins in the absence of type II receptors. BMPR-IA and BMPR-IB are thought to mediate distinct effects on gene expression, cell differentiation, and morphogenesis in a dose dependent fashion^{2,6}. Soluble BMPR-IA binds BMP4 with high-affinity in solution and is a potent BMP-4 antagonist in vitro. In adult tissues, BMPR-IA is widely expressed, but the highest expression levels are found in skeletal muscle⁷. BMPR-IA is also widely expressed during embryogenesis. BMPR-1A is implicated in the genesis of Juvenile polyposis syndrome (JPS)⁸⁻¹⁰.

References:

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RELATED PRODUCTS

Product	Conjugate	Cat. No.
Protein A	Sepharose [®] 4B	10-1041
rec-Protein G	Sepharose [®] 4B	10-1241

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TRITC	81-6114	81-6514
Cy [™] 3	81-6115	81-6515
Cy [™] 5	81-6116	81-6516
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AP	81-6122	81-6522
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