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Mouse Acvr1 Antibody (Center) Blocking peptide

Synthetic peptide
Catalog # BP13796c

Specification

Mouse Acvr1 Antibody (Center) Blocking peptide - Product Information

Primary Accession P37172

Mouse Acvr1 Antibody (Center) Blocking peptide - Additional Information

Gene ID 11477

Other Names
Activin receptor type-1, Activin receptor type I, ACTR-I, Serine/threonine-protein kinase receptor R1, SKR1, TGF-B superfamily receptor type I, TSR-I, TSK-7L, Acvr1, Acvrlk2, Tgfb1

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP13796c was selected from the Center region of Mouse Acvr1. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

Mouse Acvr1 Antibody (Center) Blocking peptide - Protein Information

Name Acvr1

Synonyms Acvrlk2, Tgfb1

Function
Bone morphogenetic protein (BMP) type I receptor that is involved in a wide variety of biological processes, including bone, heart, cartilage, nervous, and reproductive system development and regulation (PubMed:10479450, PubMed:15531373, PubMed:21945937). As a type I receptor, forms heterotetrameric receptor complexes with the type II receptors AMHR2, ACVR2A ors ACVR2B. Upon binding of ligands such as BMP7 or BMP9 to the heteromeric complexes, type II receptors transphosphorylate ACVR1 intracellular domain. In turn, ACVR1 kinase domain is activated and subsequently phosphorylates SMAD1/5/8 proteins that transduce the signal. In addition to its role in mediating BMP

pathway-specific signaling, suppresses TGFbeta/activin pathway signaling by interfering with the binding of activin to its type II receptor. Besides canonical SMAD signaling, can activate non-canonical pathways such as p38 mitogen-activated protein kinases/MAPKs (PubMed:25413979, PubMed:10479450, PubMed:15531373, PubMed:21945937) (By similarity). May promote the expression of HAMP, potentially via its interaction with BMP6 (PubMed:31800957).

Cellular Location
Membrane; Single-pass type I membrane protein.

Tissue Location
Highly expressed in bone during developmental stages (PubMed:21945937). Expressed in normal parenchymal cells, endothelial cells, fibroblasts and tumor-derived epithelial cells

Mouse Acvr1 Antibody (Center) Blocking peptide - Protocols

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

- Blocking Peptides

Mouse Acvr1 Antibody (Center) Blocking peptide - Images

Mouse Acvr1 Antibody (Center) Blocking peptide - Background

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. Receptor for activin. May be involved in left-right pattern formation during embryogenesis.

Mouse Acvr1 Antibody (Center) Blocking peptide - References

Luo, J., et al. J. Biol. Chem. 285(38):29588-29598(2010)Song, G.A., et al. J. Biol. Chem. 285(29):22542-22553(2010)Shimogori, T., et al. Nat. Neurosci. 13(6):767-775(2010)Suzuki, Y., et al. J. Cell. Sci. 123 (PT 10), 1684-1692 (2010) :Caronia, G., et al. J. Neurosci. 30(18):6291-6301(2010)