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Mouse Acvr1 Antibody (Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP13796c

Product Information

Application	WB, IHC-P, E
Primary Accession	P37172
Other Accession	P80201, Q04771, Q28041, NP_031420.2, NP_001103675.1
Reactivity	Human, Mouse
Predicted	Bovine, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB34167
Calculated MW	57226
Antigen Region	137-166

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	This Mouse Acvr1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 137-166 amino acids from the Central region of mouse Acvr1.
Dilution	WB~~1:1000 IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	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.
Precautions	Mouse Acvr1 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

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 (By similarity) (PubMed:10479450, PubMed:15531373, PubMed:21945937, PubMed:25413979). 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

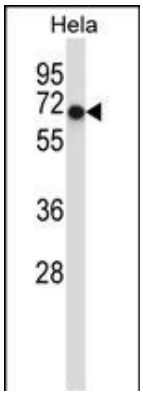
Background

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.

References

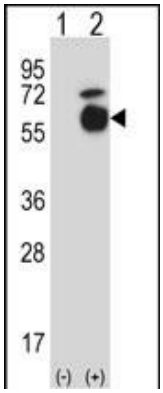
Luo, J., et al. J. Biol. Chem. 285(38):29588-29598(2010)
Song, G.A., et al. J. Biol. Chem. 285(29):22542-22553(2010)
Shimogori, T., et al. Nat. Neurosci. 13(6):767-775(2010)
Suzuki, Y., et al. J. Cell. Sci. 123 (PT 10), 1684-1692 (2010) :
Caronia, G., et al. J. Neurosci. 30(18):6291-6301(2010)

Images

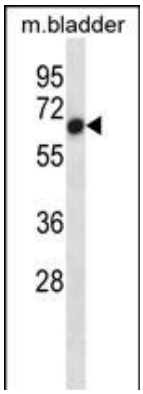


Mouse Acvr1 Antibody (Center) (Cat. #AP13796c) western blot analysis in Hela cell line lysates (35ug/lane).This demonstrates the Acvr1 antibody detected the Acvr1 protein (arrow).

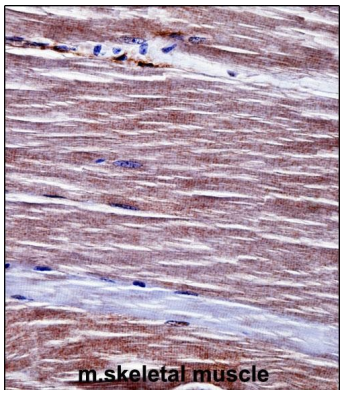
Western blot analysis of Acvr1 (arrow) using rabbit polyclonal Mouse Acvr1 Antibody (Center) (Cat. #AP13796c). 293 cell lysates (2 ug/lane) either



nontransfected (Lane 1) or transiently transfected (Lane 2) with the Acvr1 gene.



Mouse Acvr1 Antibody (Center) (Cat. #AP13796c) western blot analysis in mouse bladder tissue lysates (35ug/lane).This demonstrates the Acvr1 antibody detected the Acvr1 protein (arrow).



Mouse Acvr1 Antibody (Center) (AP13796c)immunohistochemistry analysis in formalin fixed and paraffin embedded mouse skeletal muscle followed by peroxidase conjugation of the secondary antibody and DAB staining.This data demonstrates the use of Mouse Acvr1 Antibody (Center) for immunohistochemistry. Clinical relevance has not been evaluated.