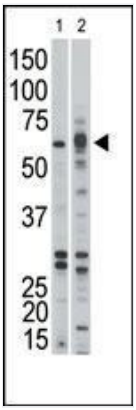
ACVR1B Antibody – Rabbit Polyclonal

PRODUCT OVERVIEW

Product Name	ACVR1B, Polyclonal Antibody
Full Product Name	ACVR1B, ID (Activin Receptor Type-1B, Activin Receptor Type IB, Serine/Threonine-protein Kinase Receptor R2, SKR2, Activin Receptor-like Kinase 4, ACVRLK4, ALK4) (AP)
Product Gene Name	anti-ACVR1B antibody
Clonality	Polyclonal
Isotype	IgG
Host	Rabbit
Species Reactivity	Human, Mouse
Form/Format	Supplied as a liquid in PBS, pH 7.2. No preservative added. Labeled with Alkaline Phosphatase (AP).
Purity/Purification	Purified by Protein A/G Affinity Chromatography.
Specificity	Recognizes human ACVR1B. Species Crossreactivity: mouse
Preparation and Storage	Store product at 4 degree C. DO NOT FREEZE! Stable at 4 degree C for 12 months after receipt as an undiluted liquid. Dilute required amount only prior to immediate use. Further dilutions can be made in assay buffer. For maximum recovery of product, centrifuge the original vial prior to removing the cap.
Molecular Weight	56,807 Da
Chromosome Location	Chromosome: 12; NC_000012.11 (52345451..52390863). Location: 12q13
OMIM	601300
3D Structure	ModBase 3D Structure for P36896
Immunogen	KLH-conjugated synthetic peptide mapping to a fragment of residues within amino acids 134-164 in the central region of human ACVR1B, UniProt Accession #P36896; P80202; Q61271. Species sequence homology: rat
Conjugate	AP
Note	Preservative Free
Product Categories/Family for anti-ACVR1B antibody	Antibodies; Activin Receptors
Applications Tested/Suitable for anti-ACVR1B antibody	ELISA (EIA), Western Blot (WB)
Application Notes for anti-ACVR1B antibody	Applications are based on unconjugated antibody.
Related Product Information for anti-ACVR1B antibody	Activins are dimeric growth and differentiation factors which belong to the transforming growth factor-beta (TGF-beta) superfamily of structurally related signaling proteins. Activins signal through a heteromeric complex of receptor serine kinases which include at least two type I (I and IB) and two type II (II and IIB) receptors. These receptors are all transmembrane proteins, composed of a ligand-binding extracellular domain with a cysteine-rich region, a transmembrane domain, and a cytoplasmic domain with predicted serine/threonine specificity. Type I receptors are essential for signaling, and type II receptors are required for binding ligands and for expression of type I receptors. Type I and II receptors form a stable complex after ligand binding, resulting in phosphorylation of type I receptors by type II receptors. The gene for ACVR1B (activin A type IB receptor) is composed of 11 exons. Alternative splicing and alternative polyadenylation result in 3 fully described transcript variants. The mRNA expression of variants 1, 2, and 3 is confirmed, and a potential fourth variant contains an alternative exon 8 and lacks exons 9 through 11, but its mRNA expression has not been confirmed.

Product References and Citations for anti-ACVR1B antibody	1. Harrison, C.A., et al., J. Biol. Chem. 278(23):21129-21135 (2003). 2. Mukasa, C., et al., Endocrinology 144(4):1603-1611 (2003). 3. Danila, D.C., et al., J. Clin. Endocrinol. Metab. 87(10):4741-4746 (2002). 4. Schneider-Kolsky, M.E., et al., Placenta 23(4):294-302 (2002). 5. Roijer, E., et al., Mamm. Genome 9(3):266-268 (1998).
Other Notes	Small volumes of anti-ACVR1B antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for ACVR1B purchase	MBS6461334 is an antibody targeting ACVR1B. Also known as ACVR1B, ID (Activin Receptor Type-1B, Activin Receptor Type IB, Serine/Threonine-protein Kinase Receptor R2, SKR2, Activin Receptor-like Kinase 4, ACVRLK4, ALK4) (AP). Reactive in Human, Mouse. Host: Rabbit.



Western Blot (WB) of anti-ACVR1B antibody
Western Blot to detect ACVR1B usingMBS626911. Lane 1: Jurkat tissue lysates Lane 2: mouse kidney tissue lysates

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for ACVR1B. It may not necessarily be applicable to this product.

NCBI GI #	4757720
NCBI GeneID	91
NCBI Accession #	NP_004293.1
UniProt Primary Accession #	P36896
UniProt Secondary Accession #	P80202; Q61271
UniProt Related Accession #	P36896
GenBank Nucleotide #	NM_004302.4
NCBI Official Full Name	activin receptor type-1B isoform a
NCBI Official Synonym Full Names	activin A receptor, type IB
NCBI Official Symbol	ACVR1B
NCBI Official Synonym Symbols	ALK4; SKR2; ACTRIB; ACVRLK4
UniProt Protein Name	Activin receptor type-1B
UniProt Synonym Protein Names	Activin receptor type IB; ACTR-IB; Activin receptor-like kinase 4; ALK-4; Serine/threonine-protein kinase receptor R2
Protein Family	Activin receptor
UniProt Gene Name	ACVR1B
UniProt Synonym Gene Names	ACVRLK4; ALK4; ACTR-IB; ALK-4; SKR2
UniProt Entry Name	ACV1B_HUMAN

NCBI Protein Information	activin receptor type-1B; activin receptor-like kinase 4; activin A receptor, type II-like kinase 4; serine/threonine-protein kinase receptor R2
NCBI Summary for ACVR1B	This gene encodes an activin A type IB receptor. Activins are dimeric growth and differentiation factors which belong to the transforming growth factor-beta (TGF-beta) superfamily of structurally related signaling proteins. Activins signal through a heteromeric complex of receptor serine kinases which include at least two type I and two type II receptors. This protein is a type I receptor which is essential for signaling. Mutations in this gene are associated with pituitary tumors. Alternate splicing results in multiple transcript variants.[provided by RefSeq, Jun 2010]
UniProt Comments for ACVR1B	ALK4: Transmembrane serine/threonine kinase activin type-1 receptor forming an activin receptor complex with activin receptor type-2 (ACVR2A or ACVR2B). Transduces the activin signal from the cell surface to the cytoplasm and is thus regulating a many physiological and pathological processes including neuronal differentiation and neuronal survival, hair follicle development and cycling, FSH production by the pituitary gland, wound healing, extracellular matrix production, immunosuppression and carcinogenesis. Activin is also thought to have a paracrine or autocrine role in follicular development in the ovary. Within the receptor complex, type-2 receptors (ACVR2A and/or ACVR2B) act as a primary activin receptors whereas the type-1 receptors like ACVR1B act as downstream transducers of activin signals. Activin binds to type-2 receptor at the plasma membrane and activates its serine-threonine kinase. The activated receptor type-2 then phosphorylates and activates the type-1 receptor such as ACVR1B. Once activated, the type-1 receptor binds and phosphorylates the SMAD proteins SMAD2 and SMAD3, on serine residues of the C- terminal tail. Soon after their association with the activin receptor and subsequent phosphorylation, SMAD2 and SMAD3 are released into the cytoplasm where they interact with the common partner SMAD4. This SMAD complex translocates into the nucleus where it mediates activin-induced transcription. Inhibitory SMAD7, which is recruited to ACVR1B through FKBP1A, can prevent the association of SMAD2 and SMAD3 with the activin receptor complex, thereby blocking the activin signal. Activin signal transduction is also antagonized by the binding to the receptor of inhibin-B via the IGSF1 inhibin coreceptor. ACVR1B also phosphorylates TDP2. ACVRIB is abundantly expressed in systemic sclerosis patient fibroblasts and production of collagen is also induced by activin-A/INHBA. This suggests that the activin/ACRV1B signaling mechanism is involved in systemic sclerosis. Belongs to the protein kinase superfamily. TKL Ser/Thr protein kinase family. TGFB receptor subfamily. 5 isoforms of the human protein are produced by alternative splicing. Protein type: Kinase, protein; Membrane protein, integral; EC 2.7.11.30; Protein kinase, TKL; Protein kinase, Ser/Thr (receptor); TKL group; STKR family; Type1 subfamily Chromosomal Location of Human Ortholog: 12q13 Cellular Component: cell surface; integral to plasma membrane; plasma membrane; activin receptor complex; receptor complex Molecular Function: activin receptor activity; metal ion binding; transmembrane receptor protein serine/threonine kinase activity; transforming growth factor beta receptor activity; protein serine/threonine kinase activity; protein binding; activin receptor activity, type I; ubiquitin protein ligase binding; growth factor binding; activin binding; SMAD binding; ATP binding; receptor signaling protein serine/threonine kinase activity Biological Process: development of primary female sexual characteristics; central nervous system development; in utero embryonic development; positive regulation of erythrocyte differentiation; protein amino acid autophosphorylation; peptidyl-threonine phosphorylation; activin receptor signaling pathway; signal transduction; protein amino acid phosphorylation; positive regulation of activin receptor signaling pathway; hair follicle development; regulation of transcription, DNA-dependent; transmembrane receptor protein serine/threonine kinase signaling pathway; positive regulation of transcription from RNA polymerase II promoter; negative regulation of cell growth; G1/S transition of mitotic cell cycle
Research Articles on ACVR1B	**1.** ActRIBCA signaling can promote cell migration in prostate cancer cells via a network of signaling molecules that work together to trigger the process of EMT, and thereby aid in the aggressiveness and progression of prostate cancers.
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