ACVR1 Antibody – Rabbit Polyclonal

PRODUCT OVERVIEW

Product Name	ACVR1, Polyclonal Antibody
Full Product Name	ACVR1, ID (ACVR1, ACVRLK2, Activin receptor type-1, Activin receptor type I, Activin receptor-like kinase 2, Serine/threonine-protein kinase receptor R1, TGF-B superfamily receptor type I) (MaxLight 550)
Product Gene Name	anti-ACVR1 antibody
Product Synonym Names	ACVR1; ACVRLK2; Activin receptor type-1; Activin receptor type I; Activin receptor-like kinase 2; Serine/threonine-protein kinase receptor R1; TGF-B superfamily receptor type I
Clonality	Polyclonal
Isotype	IgG
Host	Rabbit
Species Reactivity	Human
Form/Format	Supplied as a liquid in PBS, pH 7.2. No preservative added. Labeled with MaxLight550.
Purity/Purification	Purified by Protein A Affinity Chromatography.
Preparation and Storage	Store product at 4 degree C in the dark. 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. Caution: MaxLight550 conjugates are sensitive to light. For maximum recovery of product, centrifuge the original vial prior to removing the cap.
Molecular Weight	57,153 Da
Chromosome Location	Chromosome: 2; NC_000002.11 (158592958..158732374, complement). Location: 2q23-q24
OMIM	gene 135100
3D Structure	ModBase 3D Structure for Q04771
Immunogen	ACVR1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 131-161 amino acids from the Central region of human ACVR1.
Conjugate	MaxLight550
Note	Preservative Free
Product Categories/Family for anti-ACVR1 antibody	Antibodies; Protein Kinases
Applications Tested/Suitable for anti-ACVR1 antibody	Western Blot (WB), FLISA
Application Notes for anti-ACVR1 antibody	WB: 1:100-500 FLISA: 1:1,000 Applications are based on unconjugated antibody.

Related Product Information for anti-ACVR1 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 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. This gene encodes activin A type I receptor which signals a particular transcriptional response in concert with activin type II receptors. Mutations in this gene are associated with fibrodysplasia ossificans progressive.
Product References and Citations for anti-ACVR1 antibody	Canzian, F., et al. Hum. Mol. Genet. 19(19):3873-3884(2010). Shimada, M., et al. Hum. Genet. 128(4):433-441(2010). Song, G.A., et al. J. Biol. Chem. 285(29):22542-22553(2010). Herrera, B., et al. Cancer Res. 69(24):9254-9262(2009). Jung, B., et al. PLoS ONE 4 (12), E8308 (2009).
Other Notes	Small volumes of anti-ACVR1 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 ACVR1 purchase	MBS6271394 is an antibody targeting ACVR1. Also known as ACVR1, ID (ACVR1, ACVRLK2, Activin receptor type-1, Activin receptor type I, Activin receptor-like kinase 2, Serine/threonine-protein kinase receptor R1, TGF-B superfamily receptor type I) (MaxLight 550). Reactive in Human. Host: Rabbit.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for ACVR1. It may not necessarily be applicable to this product.

NCBI GI #	166235898
NCBI GeneID	90
NCBI Accession #	NP_001104537.1
NCBI Related Accession #	NP_001096.1
UniProt Primary Accession #	Q04771
UniProt Related Accession #	Q04771; Q53SF4; Q53SV1
GenBank Nucleotide #	NM_001111067.2
NCBI Official Full Name	activin receptor type-1
NCBI Official Synonym Full Names	activin A receptor, type I
NCBI Official Symbol	ACVR1
NCBI Official Synonym Symbols	FOP; ALK2; SKR1; TSRI; ACTRI; ACVR1A; ACVRLK2
UniProt Protein Name	Activin receptor type-1
UniProt Synonym Protein Names	Activin receptor type I; ACTR-I; Activin receptor-like kinase 2; ALK-2; Serine/threonine-protein kinase receptor R1; SKR1; TGF-B superfamily receptor type I; TSR-I
Protein Family	Activin receptor
UniProt Gene Name	ACVR1
UniProt Synonym Gene Names	ACVRLK2; ACTR-I; ALK-2; SKR1; TSR-I
UniProt Entry Name	ACVR1_HUMAN
NCBI Protein Information	activin receptor type-1; OTTHUMP00000162806; OTTHUMP00000204626; OTTHUMP00000240120; activin receptor type I; hydroxyalkyl-protein kinase; activin receptor-like kinase 2; TGF-B superfamily receptor type I; activin A receptor, type II-like kinase 2; serine

NCBI Summary for ACVR1	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 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. This gene encodes activin A type I receptor which signals a particular transcriptional response in concert with activin type II receptors. Mutations in this gene are associated with fibrodysplasia ossificans progressive. [provided by RefSeq]
UniProt Comments for ACVR1	ALK2: 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 for left-right pattern formation during embryogenesis. Interacts with FKBP1A. Interacts with FCHO1. Expressed in normal parenchymal cells, endothelial cells, fibroblasts and tumor-derived epithelial cells. Belongs to the protein kinase superfamily. TKL Ser/Thr protein kinase family. TGFB receptor subfamily. Protein type: Membrane protein, integral; Kinase, protein; EC 2.7.11.30; Protein kinase, Ser/Thr (receptor); Protein kinase, TKL; TKL group; STKR family; Type1 subfamily Chromosomal Location of Human Ortholog: 2q23-q24 Cellular Component: apical part of cell; integral to plasma membrane; activin receptor complex Molecular Function: protein homodimerization activity; metal ion binding; peptide hormone binding; transmembrane receptor protein serine/threonine kinase activity; protein kinase activity; protein serine/threonine kinase activity; protein binding; activin receptor activity, type I; transforming growth factor beta receptor activity, type I; transforming growth factor beta binding; activin binding; SMAD binding; ATP binding; receptor signaling protein serine/threonine kinase activity Biological Process: pharyngeal system development; in utero embryonic development; positive regulation of transcription, DNA-dependent; peptidyl-threonine phosphorylation; activin receptor signaling pathway; gastrulation with mouth forming second; positive regulation of bone mineralization; protein amino acid phosphorylation; germ cell development; negative regulation of signal transduction; BMP signaling pathway; patterning of blood vessels; positive regulation of osteoblast differentiation; negative regulation of activin receptor signaling pathway; mesoderm formation; transforming growth factor beta receptor signaling pathway; positive regulation of transcription from RNA polymerase II promoter; smooth muscle cell differentiation; regulation of skeletal muscle development; determination of left/right symmetry; regulation of ossification; neural crest cell migration; acute inflammatory response; urogenital system development; G1/S transition of mitotic cell cycle Disease: Fibrodysplasia Ossificans Progressiva
Research Articles on ACVR1	**1.** These data indicate that in the context of a Down's syndrome background, ALK2-mediated reduction of BMP signaling may contribute to congenital heart defects.
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