ACVR1 Lysate – Tissue Lysate

PRODUCT OVERVIEW

Product Name	ACVR1, Lysate
Full Product Name	Human ACVR1 Protein Lysate
Product Gene Name	ACVR1 lysate
Product Synonym Names	ACVR1; ACTRI; ACVR1A; ACVRLK2; ALK2; FOP; SKR1; TSRI
Host	Human
Form/Format	Lyophilized
Preparation and Storage	Store at -20 degree C Once reconsituted, aliquot and store any remaining material at-20 degree C to avoid repeated freeze-thaw cycles.
OMIM	gene 135100
3D Structure	ModBase 3D Structure for Q04771
Related Product Information for ACVR1 lysate	Human ACVR1 Protein Lysate 20ug is provided as a Lyophilized powder. This is a Recombinant Protein Lysate produced in HEK293T cells. This protein lysate can be reconsituted using SDS Sample Buffer.
Other Notes	Small volumes of ACVR1 lysate 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	MBS136829 is a lysate targeting ACVR1. Also known as Human ACVR1 Protein Lysate. Host: Human.

ADDITIONAL DETAILS

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

NCBI GI #	4501895
NCBI GeneID	90
NCBI Accession #	NP_001096
UniProt Primary Accession #	Q04771
UniProt Related Accession #	Q04771
GenBank Nucleotide #	NM_001105
NCBI Official Full Name	activin receptor type-1
NCBI Official Synonym Full Names	activin A receptor type 1
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
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, Jul 2008]
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 findings suggest that the PSMD14-ALK2 axis plays an essential role in initiation of the BMP6 signaling pathway and contributes to tumorigenesis and chemoresistance of colorectal cancers.
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