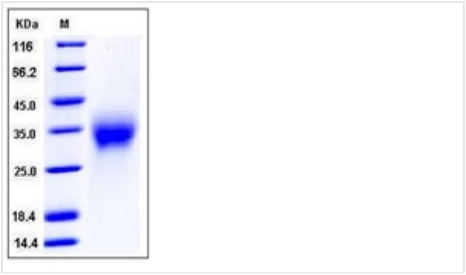
ACVR2A Active Protein

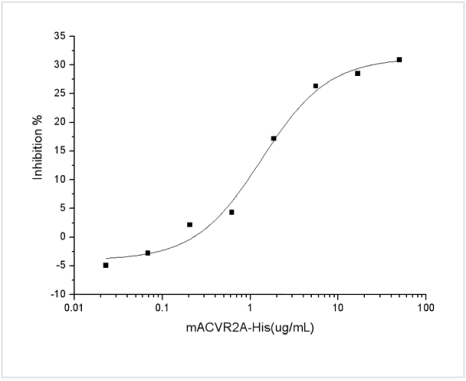
PRODUCT OVERVIEW

Product Name	ACVR2A, Active Protein
Full Product Name	ACVR2A Protein, Mouse, Recombinant (His Tag)
Product Gene Name	ACVR2A active protein
Product Synonym Names	Mouse ACVR2A/ActrIIa Protein (His Tag); ActrIIa Protein, Mouse; Acvr2 Protein, Mouse; TactrII Protein, Mouse; activin A receptor, type IIA
Sequence	Met1-Pro13 4
Host	HEK293 Cells
Form/Format	Lyophilized from sterile PBS, pH7.4, 5% Trehalose, 5% Mannitol, 0.01% Tween-80
Purity/Purification	≥97% as determined by SDS-PAGE ≥ 95% as determined by SEC-HPLC
Preparation and Storage	Store it under sterile conditions at -20 degree C to -80 degree C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage. Avoid repeated freeze-thaw cycles.
Molecular Weight	The secreted recombinant mouse ACVR2A comprises 126 amino acids and has a calculated molecular mass of 14.8 kDa. As a result of glycosylation, the recombinant protein migrates as an approximately 35 kDa band in SDS-PAGE under reducing conditions.
3D Structure	ModBase 3D Structure for P27038
Active Protein Note	Protein activity can be an ambiguous term. Please refer to the data sheet or inquire with Technical Support to determine the definition of activity for this product.
Source	Mouse
Activity	Measured by its ability to neutralize Activin-mediated inhibition on MPC11 cell proliferation. The ED50 for this effect is typically 0.6-3ug/mL in the presence of 10ng/mL Recombinant Human Activin A.
Endotoxin	<1.0EU per ug of the protein as determined by the LAL method
Predicted N Terminal	Ala 20
Tag	His
Protein Construction	A DNA sequence encoding the extracellular domain of mouse ACVR2A (NP_031422.3)(Met 1-Pro 134) was expressed, with a C-terminal polyhistidine tag.
Reconstitution	It is receommended that sterile water (400ul) be added to the vial to prepare a stock solution of 0.25mg/mL. Concentration is measured by UV-Vis.
Related Product Information for ACVR2A active protein	Background: ACVR2A and ACVR2B are two activin type II receptors. ACVR2A has been shown to interact with INHBA, SYNJ2BP and ACVR1B. The bovine ACVR2A gene encodes a protein of 513 amino acids which is highly homologous (approximately 98% identity) to the rat, mouse, and human ACVR2A proteins. Inactivation of ACVR2A is a common event in prostate cancer cells suggesting it may play an important role in the development of prostate cancer. The ACVR2A gene is a putative tumor suppressor gene that is frequently mutated in microsatellite-unstable colon cancers (MSI-H colon cancers). Frameshift mutation of ACVR2A may contribute to MSI-H colon tumorigenesis via disruption of alternate TGF-beta effector pathways.

Product References and Citations for ACVR2A active protein	Albertson RC, et al. (2005) Zebrafish acvr2a and acvr2b exhibit distinct roles in craniofacial development. Developmental dynamics 233(4): 1405-18.Chung H, et al. (2008) Mutation rates of TGFBR2 and ACVR2 coding microsatellites in human cells with defective DNA mismatch repair. PloS one 3(10): e3463.Fitzpatrick E, et al. (2009) Genetic association of the activin A receptor gene (ACVR2A) and pre-eclampsia. Molecular human reproduction 15(3):195-204.Roten LT, et al. (2009) Association between the candidate susceptibility gene ACVR2A on chromosome 2q22 and pre-eclampsia in a large Norwegian population-based study (the HUNT study). EJHG. 17(2): 250-7.
Other Notes	Small volumes of ACVR2A active protein 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 ACVR2A purchase	MBS8122867 is an active protein targeting ACVR2A. Also known as ACVR2A Protein, Mouse, Recombinant (His Tag). Host: HEK293 Cells.



SDS-Page of ACVR2A active protein



Testing Data of ACVR2A active protein
Measured by its ability to neutralize Activin-mediated inhibition on MPC11 cell proliferation. The ED50 for this effect is typically 0.6-3 ug/mL in the presence of 10 ng/ml Recombinant Human Activin A.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for ACVR2A. It may not necessarily be applicable to this product.

NCBI GI #	160358785
NCBI GeneID	11480
NCBI Accession #	NP_031422.3
UniProt Primary Accession #	P27038
UniProt Related Accession #	P27038
GenBank Nucleotide #	NM_007396.4
NCBI Official Full Name	activin receptor type-2A
NCBI Official Synonym Full Names	activin receptor IIA
NCBI Official Symbol	Acvr2a
NCBI Official Synonym Symbols	Acvr2; ActrIIa; TactrII
UniProt Protein Name	Activin receptor type-2A
UniProt Synonym Protein Names	Activin receptor type IIA; ACTR-IIA
Protein Family	Activin receptor
UniProt Gene Name	Acvr2a
UniProt Synonym Gene Names	Acvr2; ACTR-IIA
UniProt Entry Name	AVR2A_MOUSE

NCBI Protein Information	activin receptor type-2A
UniProt Comments for ACVR2A	ACVR2A: a tyrosine-kinase like receptor kinase of the STKR family. The holoreceptor receptor is 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. Each is composed of a ligand-binding extracellular domain with cysteine-rich region, a transmembrane domain, and a cytoplasmic kinase domain. 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. Type II receptor kinases are apparently constitutively active. Protein type: Membrane protein, integral; Motility/polarity/chemotaxis; Protein kinase, TKL; Protein kinase, Ser/Thr (receptor); EC 2.7.11.30; Kinase, protein; TKL group; STKR family; Type2 subfamily Cellular Component: cell surface; cytoplasm; integral to membrane; membrane; receptor complex Molecular Function: activin binding; activin receptor activity; activin receptor activity, type II; ATP binding; coreceptor activity; growth factor binding; kinase activity; metal ion binding; nucleotide binding; PDZ domain binding; protein binding; protein kinase activity; protein self-association; protein serine/threonine kinase activity; receptor signaling protein serine/threonine kinase activity; transferase activity; transmembrane receptor protein serine/threonine kinase activity Biological Process: activin receptor signaling pathway; anterior/posterior pattern formation; BMP signaling pathway; determination of left/right symmetry; embryonic skeletal development; gastrulation with mouth forming second; male gonad development; mesoderm development; penile erection; phosphorylation; positive regulation of activin receptor signaling pathway; positive regulation of bone mineralization; positive regulation of erythrocyte differentiation; positive regulation of follicle-stimulating hormone secretion; positive regulation of osteoblast differentiation; positive regulation of protein amino acid phosphorylation; positive regulation of transcription from RNA polymerase II promoter; protein amino acid phosphorylation; regulation of BMP signaling pathway; regulation of nitric-oxide synthase activity; regulation of signal transduction; Sertoli cell proliferation; sperm ejaculation; spermatogenesis; transmembrane receptor protein serine/threonine kinase signaling pathway
Research Articles on ACVR2A	**1.** Our study shows that a miR-590/Acvr2a/Rad51b signaling axis ensures the stabilization of mESCs by balancing DNA damage repair and rapid proliferation during self-renewal.
Precautions	All of MyBioSource's Products are for scientific laboratory research purposes and are not for diagnostic, therapeutics, prophylactic or in vivo use. Through your purchase, you expressly represent and warrant to MyBioSource that you will properly test and use any Products purchased from MyBioSource in accordance with industry standards. MyBioSource and its authorized distributors reserve the right to refuse to process any order where we reasonably believe that the intended use will fall outside of our acceptable guidelines.
Disclaimer	While every efforts were made to ensure the accuracy of the information provided in this datasheet, MyBioSource will not be liable for any omissions or errors contained herein. MyBioSource reserves the right to make changes to this datasheet at any time without prior notice. It is the responsibility of the customer to report product performance issues to MyBioSource within 30 days of receipt of the product. Please visit our Terms & Conditions page for more information.
Product Note	Select online data sheet information is drawn from bioinformatics databases, occasionally resulting in ambiguous or non-relevant product information. It is the responsibility of the customer to review, verify, and evaluate the information to make sure it matches their requirements before purchasing the kit. Our ELISA Kit assays are dynamic research tools and sometimes they may be updated and improved. If the format of this assay is important to you then please request the current manual or contact our technical support team with a presales inquiry before placing an order. We will confirm the current details of the assay. We cannot guarantee the sample manual posted online is the most current manual, it is intended to serve as an example only. Please refer to the instructions For Use provided with the assay kit for precise details.

For Research Use Only. Not for use in diagnostic or therapeutic procedures.

MyBioSource | Tel: +1.858.633.0165 | Fax: +1.858.633.0166 | mybiosource.com/contact-us
Online datasheet: https://www.mybiosource.com/active-protein/acvr2a/8122867