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Mouse Monoclonal Antibody to ACVR1

Purified Mouse Monoclonal Antibody
Catalog # AO2473a

Product Information

Application	WB, FC, E
Primary Accession	Q04771
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	2C1E8
Isotype	Mouse IgG1
Calculated MW	57153
Description	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.;
Immunogen	Purified recombinant fragment of human ACVR1 (AA: 21-120) expressed in E. Coli.
Formulation	Purified antibody in PBS with 0.05% sodium azide
Application Note	ELISA: 1/10000; WB: 1/500 - 1/2000; FCM: 1/200 - 1/400

Additional Information

Gene ID	90
Other Names	FOP; ALK2; SKR1; TSRI; ACTRI; ACVR1A; ACVRLK2
Dilution	WB~~1:1000 FC~~1:10~50 E~~N/A
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	Mouse Monoclonal Antibody to ACVR1 is for research use only and not for use

in diagnostic or therapeutic procedures.

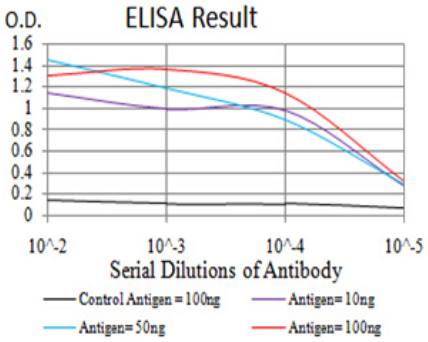
Protein Information

Name	ACVR1
Synonyms	ACVRLK2
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:20628059, PubMed:22977237). As a type I receptor, forms heterotetrameric receptor complexes with the type II receptors AMHR2, ACVR2A or ACVR2B (PubMed:17911401). Upon binding of ligands such as BMP7 or GDF2/BMP9 to the heteromeric complexes, type II receptors transphosphorylate ACVR1 intracellular domain (PubMed:25354296). In turn, ACVR1 kinase domain is activated and subsequently phosphorylates SMAD1/5/8 proteins that transduce the signal (PubMed:9748228). 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 (PubMed:17911401). Besides canonical SMAD signaling, can activate non-canonical pathways such as p38 mitogen-activated protein kinases/MAPKs (By similarity). May promote the expression of HAMP, potentially via its interaction with BMP6 (By similarity).
Cellular Location	Membrane; Single-pass type I membrane protein.
Tissue Location	Expressed in normal parenchymal cells, endothelial cells, fibroblasts and tumor-derived epithelial cells

References

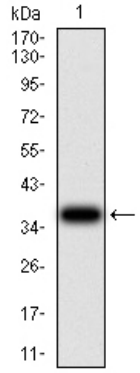
1.Proc Natl Acad Sci U S A. 2015 Dec 15;112(50):15438-43. ; 2.Br J Cancer. 2012 Dec 4;107(12):1978-86. ;

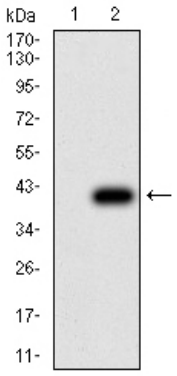
Images



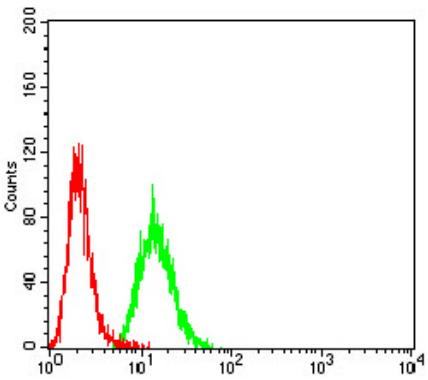
Black line: Control Antigen (100 ng);Purple line: Antigen (10ng); Blue line: Antigen (50 ng); Red line:Antigen (100 ng)

Western blot analysis using ACVR1 mAb against human ACVR1 (AA: 21-120) recombinant protein. (Expected MW is 37.1 kDa)





Western blot analysis using ACVR1 mAb against HEK293 (1) and ACVR1 (AA: 21-120)-hIgGFc transfected HEK293 (2) cell lysate.



Flow cytometric analysis of Hela cells using ACVR1 mouse mAb (green) and negative control (red).

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.