

**Mouse Monoclonal Antibody to ACVR1**  
**Purified Mouse Monoclonal Antibody**  
**Catalog # AO2473a****Specification**

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**Mouse Monoclonal Antibody to ACVR1 - Product Information**

Application	WB, FC, E
Primary Accession	<a href="#">Q04771</a>
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	Mouse IgG1
Calculated MW	57.2kDa KDa

**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

**Mouse Monoclonal Antibody to ACVR1 - 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.

## Mouse Monoclonal Antibody to ACVR1 - 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](http://www.uniprot.org/citations/20628059), PubMed: [22977237](http://www.uniprot.org/citations/22977237)). As a type I receptor, forms heterotetrameric receptor complexes with the type II receptors AMHR2, ACVR2A or ACVR2B (PubMed: [17911401](http://www.uniprot.org/citations/17911401)). Upon binding of ligands such as BMP7 or GDF2/BMP9 to the heteromeric complexes, type II receptors transphosphorylate ACVR1 intracellular domain (PubMed: [25354296](http://www.uniprot.org/citations/25354296)). In turn, ACVR1 kinase domain is activated and subsequently phosphorylates SMAD1/5/8 proteins that transduce the signal (PubMed: [9748228](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/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

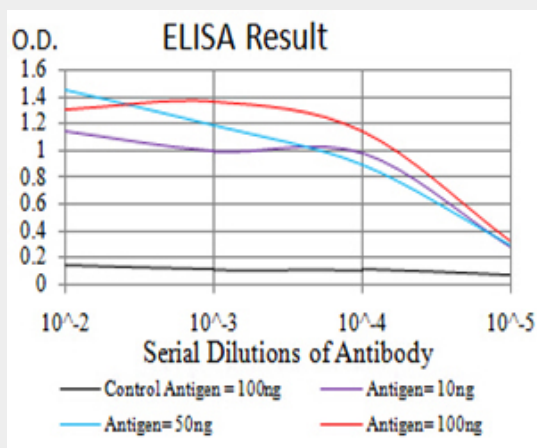
Expressed in normal parenchymal cells, endothelial cells, fibroblasts and tumor-derived epithelial cells

## Mouse Monoclonal Antibody to ACVR1 - Protocols

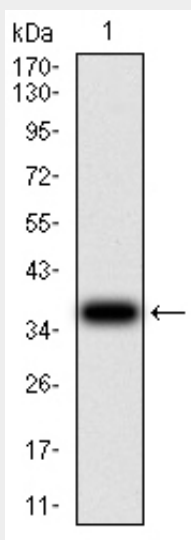
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

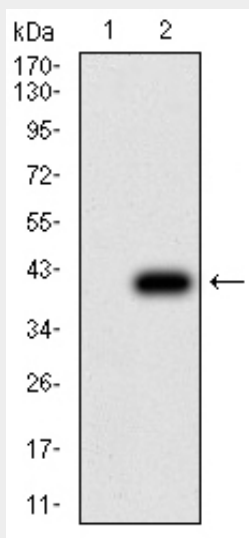
## Mouse Monoclonal Antibody to ACVR1 - Images



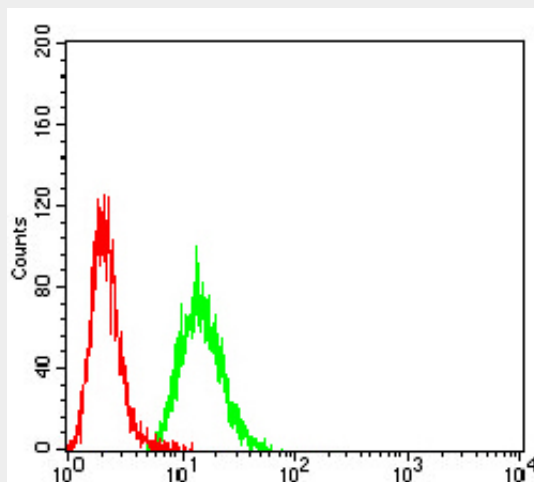
Black line: Control Antigen (100 ng);Purple line: Antigen (10ng); Blue line: Antigen (50 ng); Red line:Antigen (100 ng)



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).

#### **Mouse Monoclonal Antibody to ACVR1 - 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. ;