

**ACVR1**  
**Purified Mouse Monoclonal Antibody**  
**Catalog # AO2574a****Specification**

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**ACVR1 - Product Information**

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

Purified recombinant fragment of human ACVR1 (AA: 21-120) expressed in E. Coli.

**Formulation**

Purified antibody in PBS with 0.05% sodium azide

**ACVR1 - Additional Information**

**Gene ID** 90

**Other Names**

FOP; ALK2; SKR1; TSRI; ACTRI; ACVR1A; ACVRLK2

**Dilution**

E~~ 1/10000  
WB~~ 1/500 - 1/2000  
ICC~~ 1/200 - 1/1000  
IHC~~ 1/200 - 1/1000

**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**

ACVR1 is for research use only and not for use in diagnostic or therapeutic procedures.

**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:<a href="http://www.uniprot.org/citations/20628059" target="\_blank">20628059</a>, PubMed:<a href="http://www.uniprot.org/citations/22977237" target="\_blank">22977237</a>). As a type I receptor, forms heterotetrameric receptor complexes with the type II receptors AMHR2, ACVR2A or ACVR2B (PubMed:<a href="http://www.uniprot.org/citations/17911401" target="\_blank">17911401</a>). Upon binding of ligands such as BMP7 or GDF2/BMP9 to the heteromeric complexes, type II receptors transphosphorylate ACVR1 intracellular domain (PubMed:<a href="http://www.uniprot.org/citations/25354296" target="\_blank">25354296</a>). In turn, ACVR1 kinase domain is activated and subsequently phosphorylates SMAD1/5/8 proteins that transduce the signal (PubMed:<a href="http://www.uniprot.org/citations/9748228" target="\_blank">9748228</a>). 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:<a href="http://www.uniprot.org/citations/17911401" target="\_blank">17911401</a>). 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

### 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](#)

### ACVR1 - Images

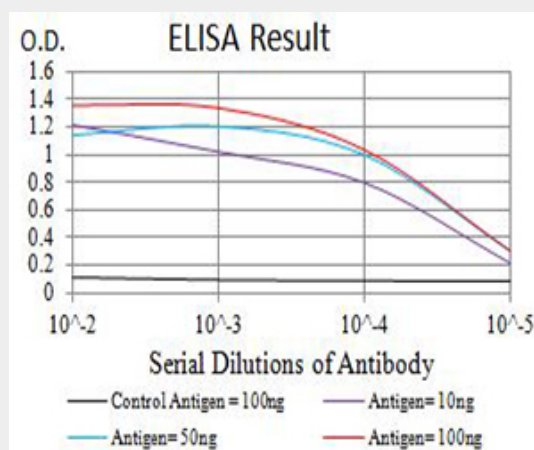


Figure 1: Black line: Control Antigen (100 ng); Purple line: Antigen (10ng); Blue line: Antigen (50 ng); Red line: Antigen (100 ng)

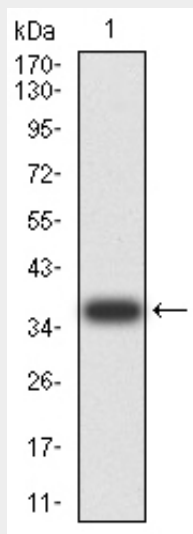


Figure 2: Western blot analysis using ACVR1 mAb against human ACVR1 (AA: 21-120) recombinant protein. (Expected MW is 37.1 kDa)

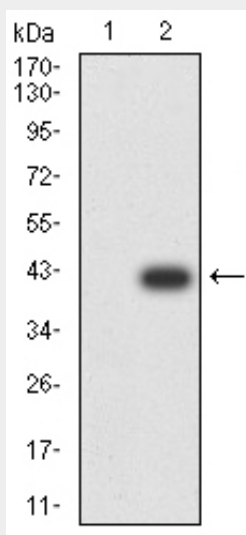


Figure 3: Western blot analysis using ACVR1 mAb against HEK293 (1) and ACVR1 (AA: 21-120)-hlgGFc transfected HEK293 (2) cell lysate.

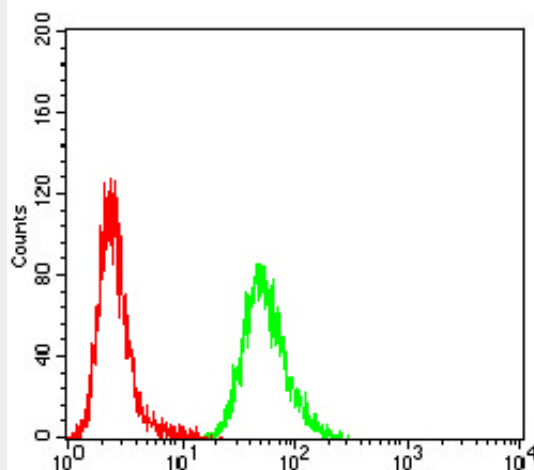


Figure 6:Flow cytometric analysis of Hela cells using ACVR1 mouse mAb (green) and negative control (red).

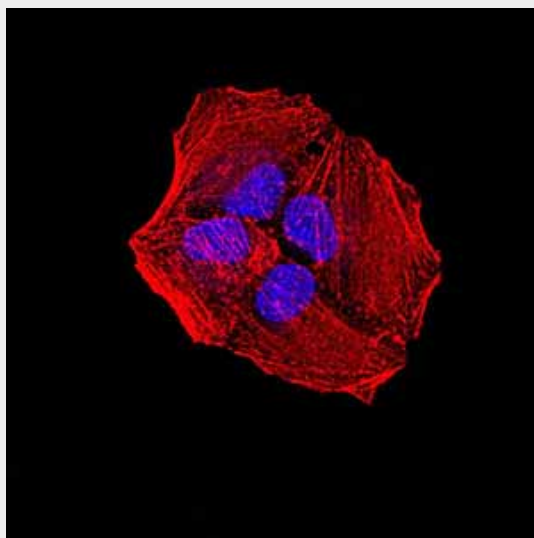


Figure 4:Immunofluorescence analysis of Hela cells using ACVR1 mouse mAb. Blue: DRAQ5 fluorescent DNA dye. Red: Actin filaments have been labeled with Alexa Fluor- 555 phalloidin.

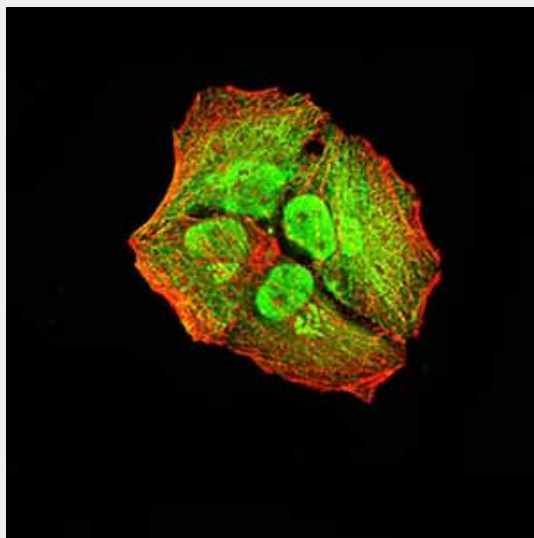


Figure 5:Immunofluorescence analysis of Hela cells using ACVR1 mouse mAb (green). Blue:

DRAQ5 fluorescent DNA dye. Red: Actin filaments have been labeled with Alexa Fluor- 555 phalloidin. Secondary antibody from Fisher (Cat#: 35503)

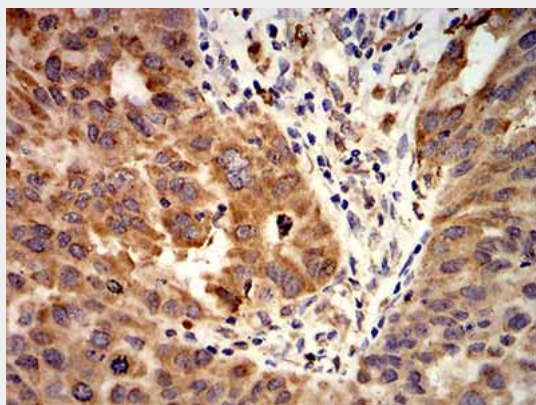


Figure 7:Immunohistochemical analysis of paraffin-embedded ovarian cancer tissues using ACVR1 mouse mAb with DAB staining.

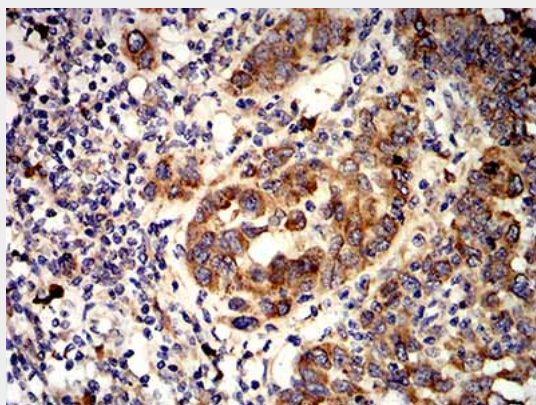


Figure 8:Immunohistochemical analysis of paraffin-embedded endometrial cancer tissues using ACVR1 mouse mAb with DAB staining.

#### **ACVR1 - References**

- 1.Indian J Pediatr. 2014 Jun;81(6):617-9.2.Nat Genet. 2014 May;46(5):457-61.