

ACVR1
Purified Mouse Monoclonal Antibody
Catalog # AO2574a

Specification

ACVR1 - Product Information

Application	E, WB, ICC, IHC
Primary Accession	Q04771
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	Mouse IgG1
Calculated MW	57.2kDa KDa

Immunogen

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: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

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

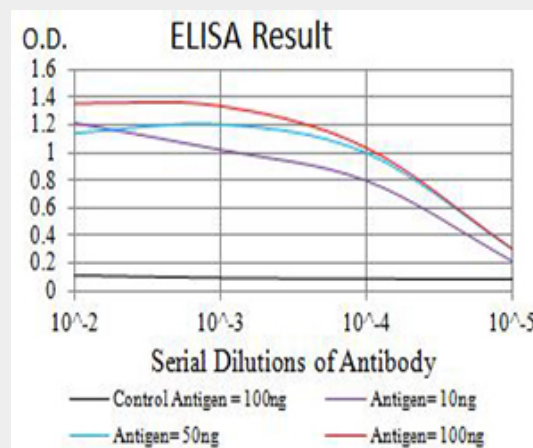


Figure 1: Black line: Control Antigen (100 ng); Purple line: Antigen (10ng); Blue line: Antigen (50 ng); Red line: Antigen (100 ng)

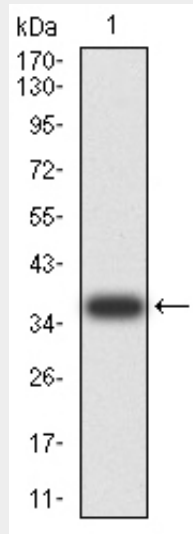


Figure 2: Western blot analysis using ACVR1 mAb against human ACVR1 (AA: 21-120) recombinant protein. (Expected MW is 37.1 kDa)

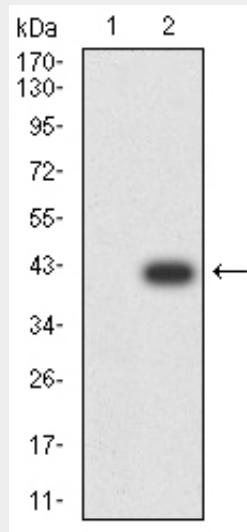


Figure 3: Western blot analysis using ACVR1 mAb against HEK293 (1) and ACVR1 (AA: 21-120)-hlgGFc transfected HEK293 (2) cell lysate.

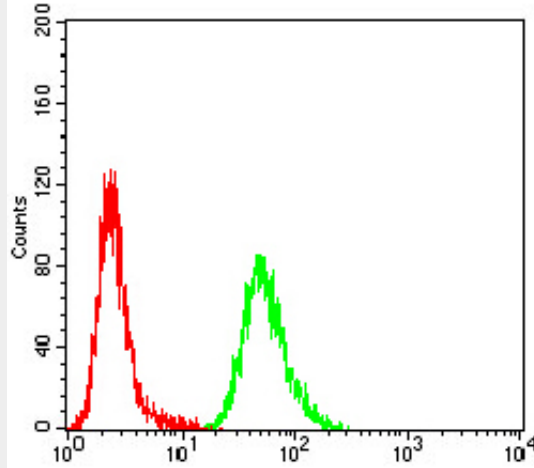


Figure 6:Flow cytometric analysis of HeLa cells using ACVR1 mouse mAb (green) and negative control (red).

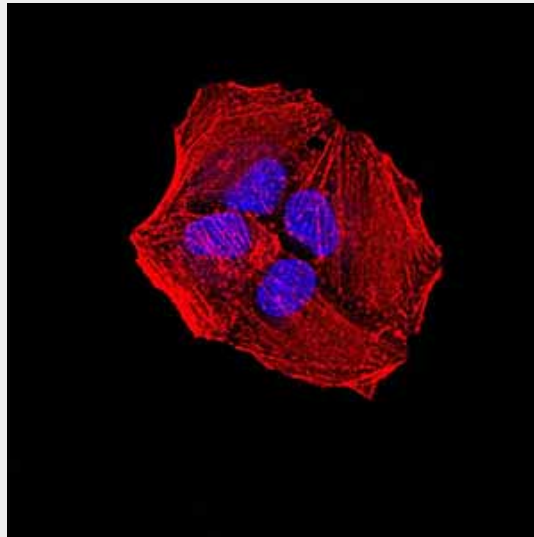


Figure 4:Immunofluorescence analysis of HeLa cells using ACVR1 mouse mAb. Blue: DRAQ5 fluorescent DNA dye. Red: Actin filaments have been labeled with Alexa Fluor- 555 phalloidin.

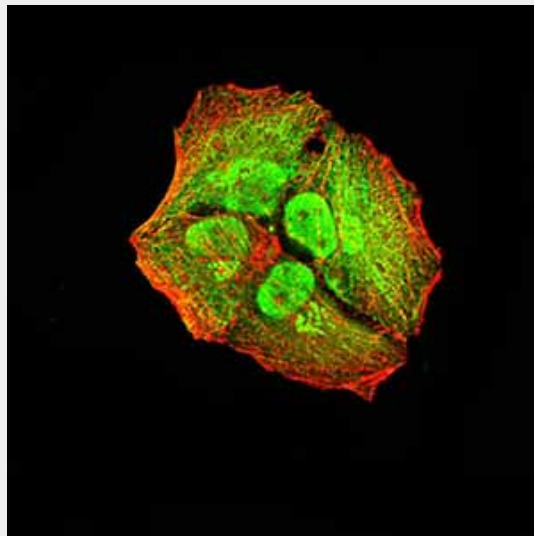


Figure 5:Immunofluorescence analysis of HeLa cells using ACVR1 mouse mAb (green). Blue:

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

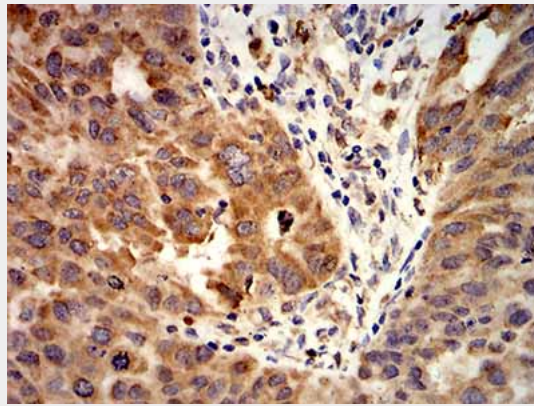


Figure 7:Immunohistochemical analysis of paraffin-embedded ovarian cancer tissues using ACVR1 mouse mAb with DAB staining.

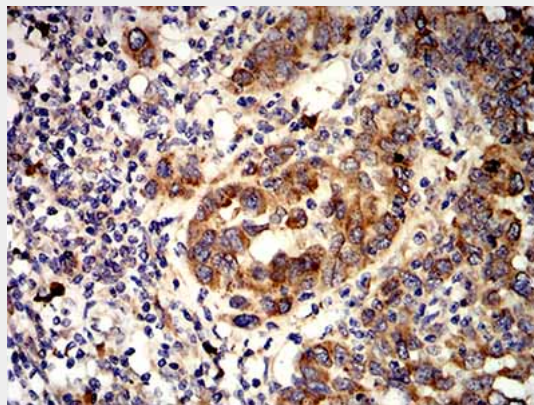


Figure 8:Immunohistochemical analysis of paraffin-embedded endometrial cancer tissues using ACVR1 mouse mAb with DAB staining.

ACVR1 - References

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