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ACVR1
Purified Mouse Monoclonal Antibody
Catalog # AO2574a

Specification

ACVR1 - Product Information

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

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 Cytomety
- Cell Culture

ACVR1 - Images

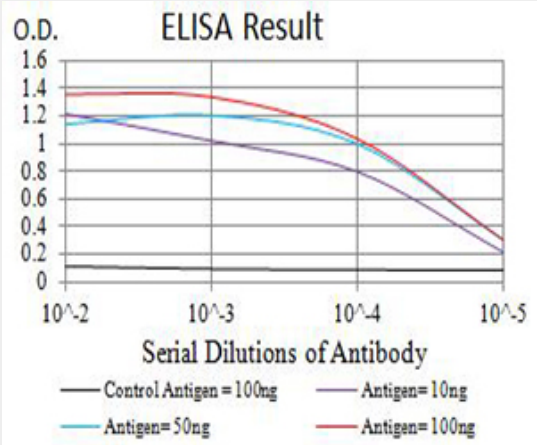

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Figure 1:Black line: Control Antigen (100 ng);Purple line: Antigen (10ng); Blue line: Antigen (50 ng); Red line:Antigen (100 ng)

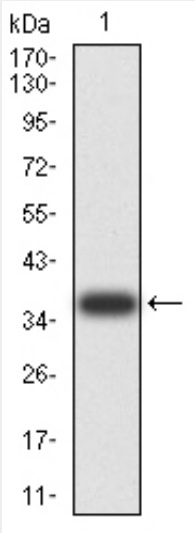

Figure 2:Western blot analysis using ACVR1 mAb against human ACVR1 (AA: 21-120) recombinant protein. (Expected MW is 37.1 kDa)

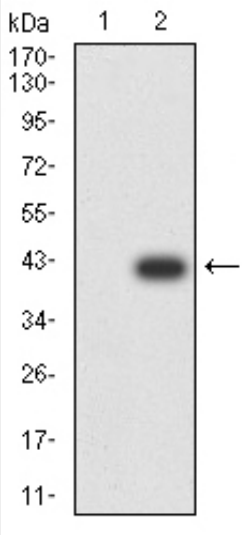

Figure 3:Western blot analysis using ACVR1 mAb against HEK293 (1) and ACVR1 (AA: 21-120)-hIgGFc transfected HEK293 (2) cell lysate.

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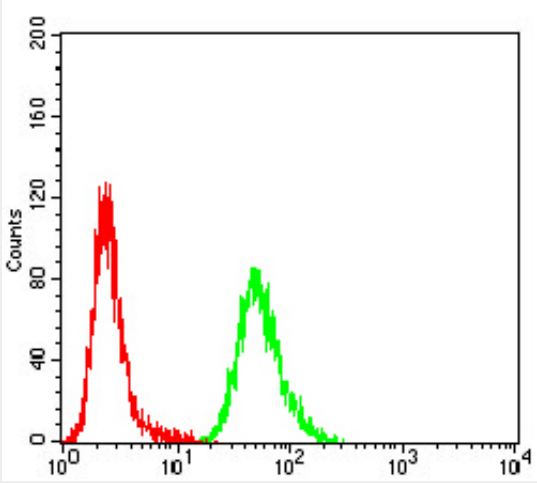

Figure 6:Flow cytometric analysis of Hela cells using ACVR1 mouse mAb (green) and negative control (red).

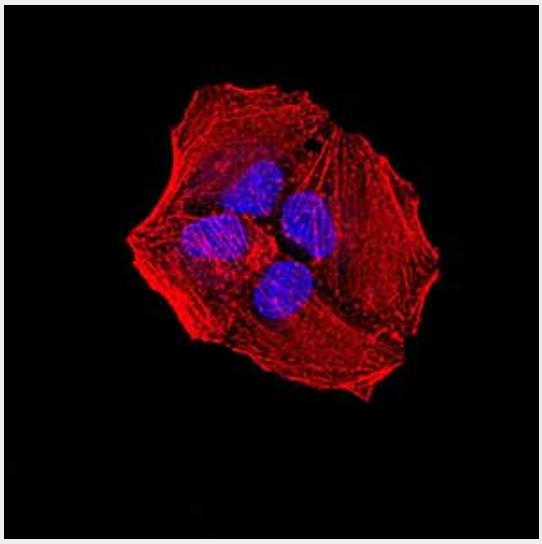

Figure 4:Immunofluorescence analysis of Hela cells using ACVR1 mouse mAb. Blue: DRAQ5 fluorescent DNA dye. Red: Actin filaments have been labeled with Alexa Fluor- 555 phalloidin.

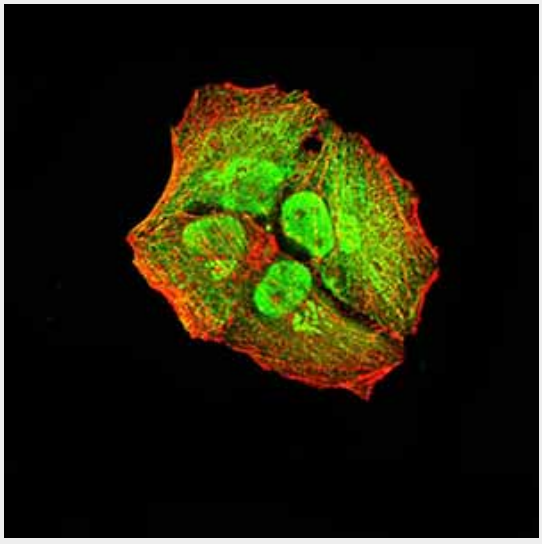

Figure 5:Immunofluorescence analysis of Hela cells using ACVR1 mouse mAb (green). Blue:

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

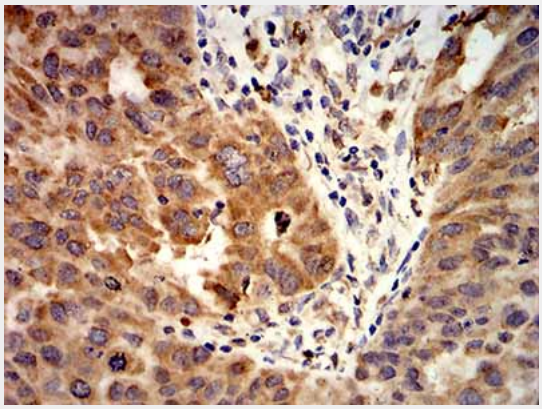

Figure 7:Immunohistochemical analysis of paraffin-embedded ovarian cancer tissues using ACVR1 mouse mAb with DAB staining.

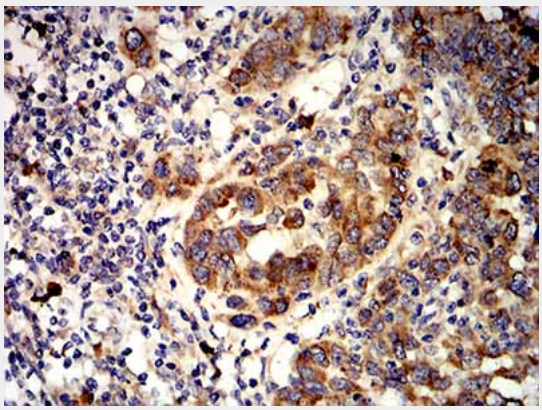

Figure 8:Immunohistochemical analysis of paraffin-embedded endometrial cancer tissues using ACVR1 mouse mAb with DAB staining.

ACVR1 - References

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