

Activin Receptor Type IA (ACVR1) Antibody (Center N153)
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7101A

Specification

Activin Receptor Type IA (ACVR1) Antibody (Center N153) - Product Information

Application	WB, IHC-P,E
Primary Accession	Q04771
Other Accession	P80201 , P37172 , Q28041
Reactivity	Human
Predicted	Bovine, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Antigen Region	138-170

Activin Receptor Type IA (ACVR1) Antibody (Center N153) - Additional Information

Gene ID 90

Other Names

Activin receptor type-1, Activin receptor type I, ACTR-I, Activin receptor-like kinase 2, ALK-2, Serine/threonine-protein kinase receptor R1, SKR1, TGF-B superfamily receptor type I, TSR-I, ACVR1, ACVRLK2

Target/Specificity

This Activin Receptor Type IA (ACVR1) antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 138-170 amino acids from the Central region of human Activin Receptor Type IA (ACVR1).

Dilution

WB~~1:1000
IHC-P~~1:50~100

Format

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.

Storage

Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions

Activin Receptor Type IA (ACVR1) Antibody (Center N153) is for research use only and not for use in diagnostic or therapeutic procedures.

Activin Receptor Type IA (ACVR1) Antibody (Center N153) - 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

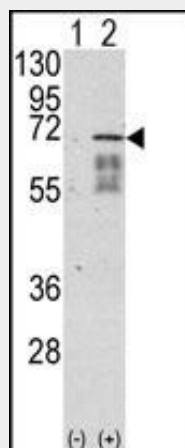
Expressed in normal parenchymal cells, endothelial cells, fibroblasts and tumor-derived epithelial cells

Activin Receptor Type IA (ACVR1) Antibody (Center N153) - Protocols

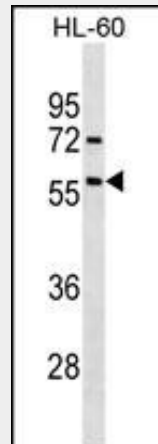
Provided below are standard protocols that you may find useful for product applications.

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

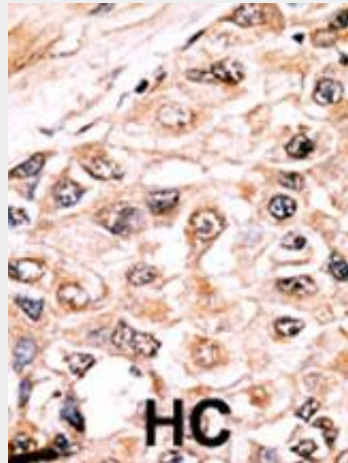
Activin Receptor Type IA (ACVR1) Antibody (Center N153) - Images



Western blot analysis of ACVR1 (arrow) using rabbit polyclonal ACVR1 Antibody (Center N153) (Cat.#AP7101a). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected with the ACVR1 gene (Lane 2) (Origene Technologies).



ACVR1 Antibody (Cat. #AP7101a) western blot analysis in HL-60 cell line lysates (35ug/lane). This demonstrates the ACVR1 antibody detected the ACVR1 protein (arrow).



Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by AEC staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.

Activin Receptor Type IA (ACVR1) Antibody (Center N153) - Background

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. ACVR1 is an activin A type I receptor which signals a particular transcriptional response in concert with activin type II receptors.

Activin Receptor Type IA (ACVR1) Antibody (Center N153) - References

Casagrandi, D., et al., Mol. Hum. Reprod. 9(4):199-203 (2003).

Welt, C.K., *Curr Opin Obstet Gynecol* 14(3):317-323 (2002).
Schneider-Kolsky, M.E., et al., *Placenta* 23(4):294-302 (2002).
Chapman, S.C., et al., *Mol. Endocrinol.* 15(4):668-679 (2001).
Schulte, K.M., et al., *Horm. Metab. Res.* 32(10):390-400 (2000).