

**Activin Receptor Type IA (ACVR1) Antibody (N-term)
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7101b**

Specification

Activin Receptor Type IA (ACVR1) Antibody (N-term) - Product Information

Application	WB, IHC-P,E
Primary Accession	Q04771
Other Accession	Q28041
Reactivity	Human, Rat
Predicted	Bovine
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Antigen Region	6-34

Activin Receptor Type IA (ACVR1) Antibody (N-term) - 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 6-34 amino acids from the N-terminal 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 (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Activin Receptor Type IA (ACVR1) Antibody (N-term) - 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

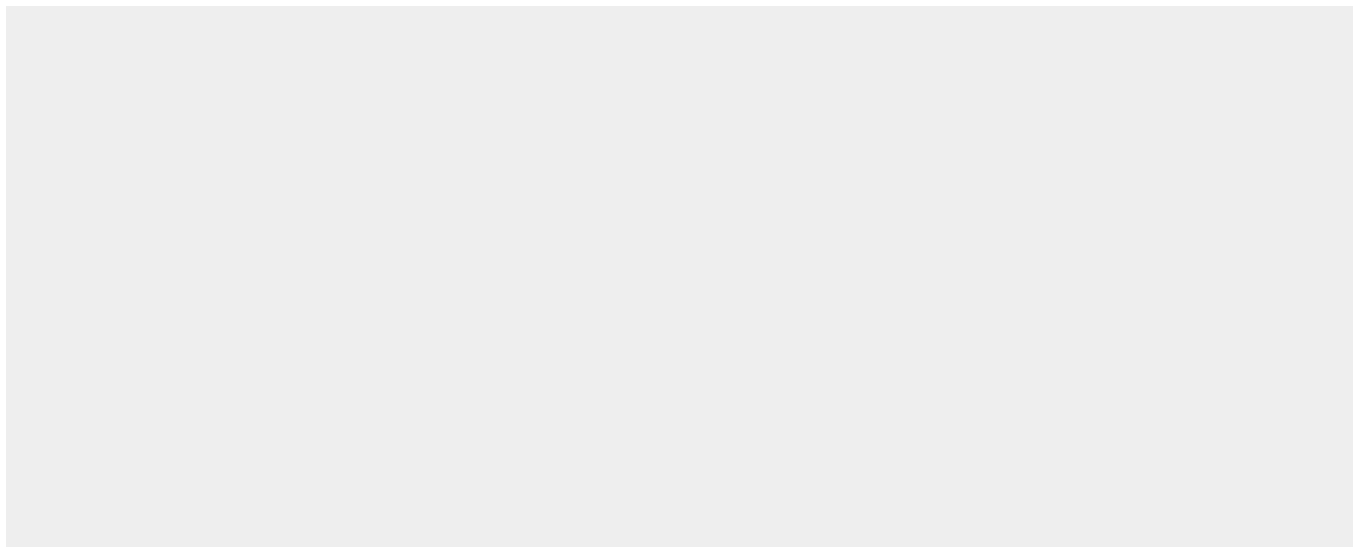
Expressed in normal parenchymal cells, endothelial cells, fibroblasts and tumor-derived epithelial cells

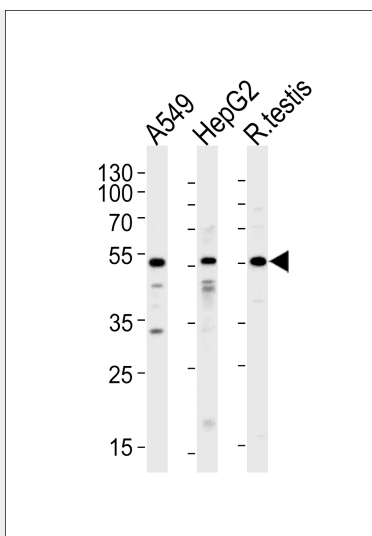
Activin Receptor Type IA (ACVR1) Antibody (N-term) - Protocols

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

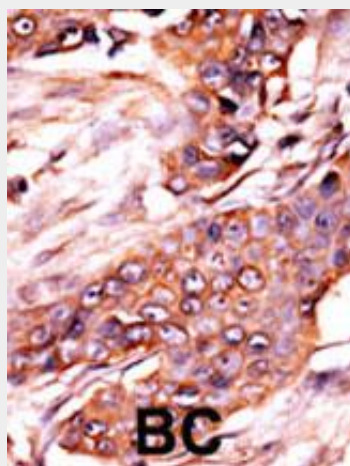
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

Activin Receptor Type IA (ACVR1) Antibody (N-term) - Images





Western blot analysis of lysates from A549, HepG2 cell line and rat testis tissue (from left to right), using ACVR1 Antibody (N-term) (Cat. #AP7101b). AP7101b was diluted at 1:1000 at each lane. A goat anti-rabbit IgG H&L (HRP) at 1:5000 dilution was used as the secondary antibody. Lysates at 35 µg per lane.



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;

Activin Receptor Type IA (ACVR1) Antibody (N-term) - 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 (N-term) - References

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