

Activin Receptor Type IA (ACVR1) Antibody (Center N99)
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7101c

Specification

Activin Receptor Type IA (ACVR1) Antibody (Center N99) - Product Information

Application	WB,E
Primary Accession	Q04771
Other Accession	P37172 , Q28041
Reactivity	Human, Mouse
Predicted	Bovine
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	57153
Antigen Region	85-123

Activin Receptor Type IA (ACVR1) Antibody (Center N99) - 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 85-123 amino acids from the Central region of human Activin Receptor Type IA (ACVR1).

Dilution

WB~~1:1000

Format

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

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 N99) is for research use only and not for use in diagnostic or therapeutic procedures.

Activin Receptor Type IA (ACVR1) Antibody (Center N99) - 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

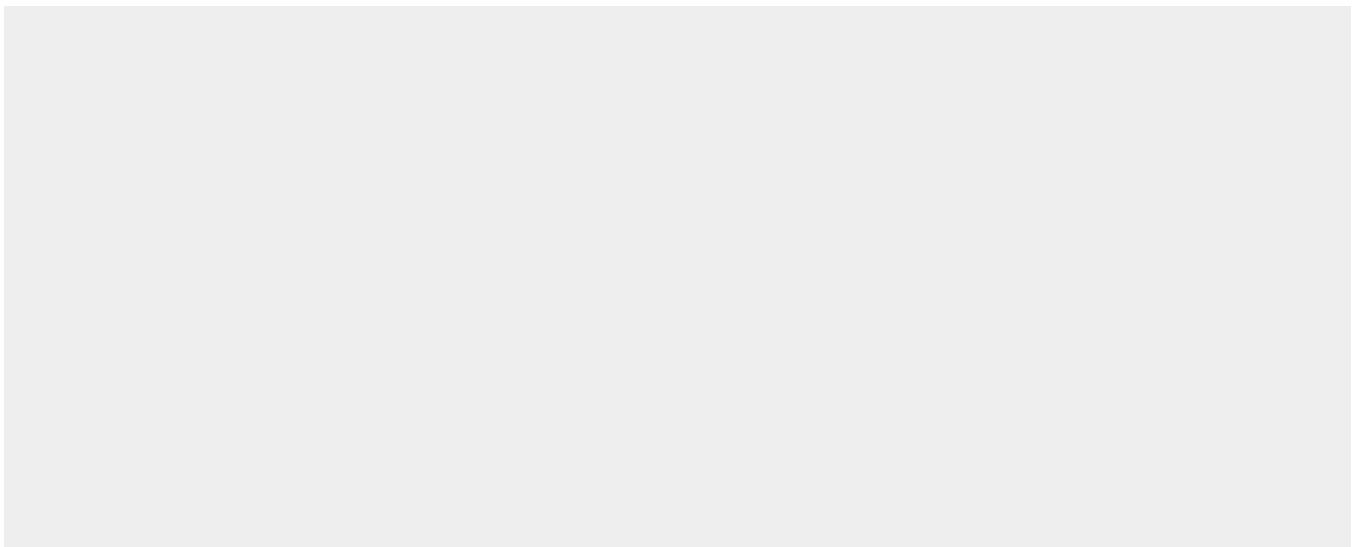
Expressed in normal parenchymal cells, endothelial cells, fibroblasts and tumor-derived epithelial cells

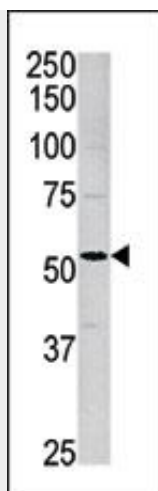
Activin Receptor Type IA (ACVR1) Antibody (Center N99) - Protocols

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

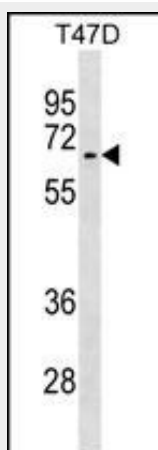
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

Activin Receptor Type IA (ACVR1) Antibody (Center N99) - Images

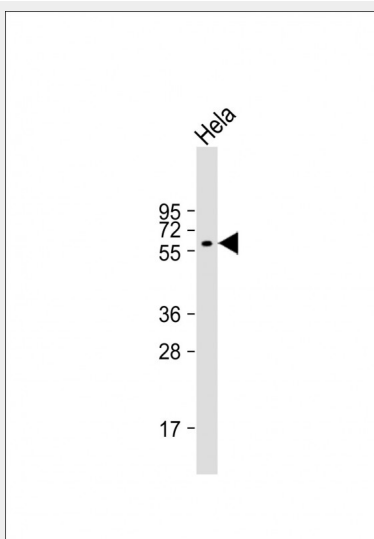




Western blot analysis of anti-ACVR1 Pab (Cat. #AP7101c) in mouse brain tissue lysate. ACVR1 (arrow) was detected using the purified Pab.



ACVR1 Antibody (N-term) (Cat. #AP7101c) western blot analysis in T47D cell line lysates (35ug/lane). This demonstrates the ACVR1 antibody detected the ACVR1 protein (arrow).



Anti-ACVR1 Antibody N-term at 1:1000 dilution + HeLa whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 57 kDa Blocking/Dilution buffer: 5% NFDN/TBST.

Activin Receptor Type IA (ACVR1) Antibody (Center N99) - 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 N99) - References

Kan, L. et al. Stem Cells. January; 27(1): 150-156(2009).
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).

Activin Receptor Type IA (ACVR1) Antibody (Center N99) - Citations

- [Dysregulation of local stem/progenitor cells as a common cellular mechanism for heterotopic ossification.](#)