

**Activin Receptor Type IA (ACVR1) Antibody (Center R147)**  
**Purified Rabbit Polyclonal Antibody (Pab)**  
**Catalog # AP7806C****Specification**

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**Activin Receptor Type IA (ACVR1) Antibody (Center R147) - Product Information**

Application	WB, IHC-P,E
Primary Accession	<a href="#">Q04771</a>
Other Accession	<a href="#">P80201</a> , <a href="#">P37172</a> , <a href="#">Q28041</a>
Reactivity	Human
Predicted	Bovine, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Antigen Region	132-162

**Activin Receptor Type IA (ACVR1) Antibody (Center R147) - 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 132-162 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 R147) is for research use only and not for use in diagnostic or therapeutic procedures.

**Activin Receptor Type IA (ACVR1) Antibody (Center R147) - 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**

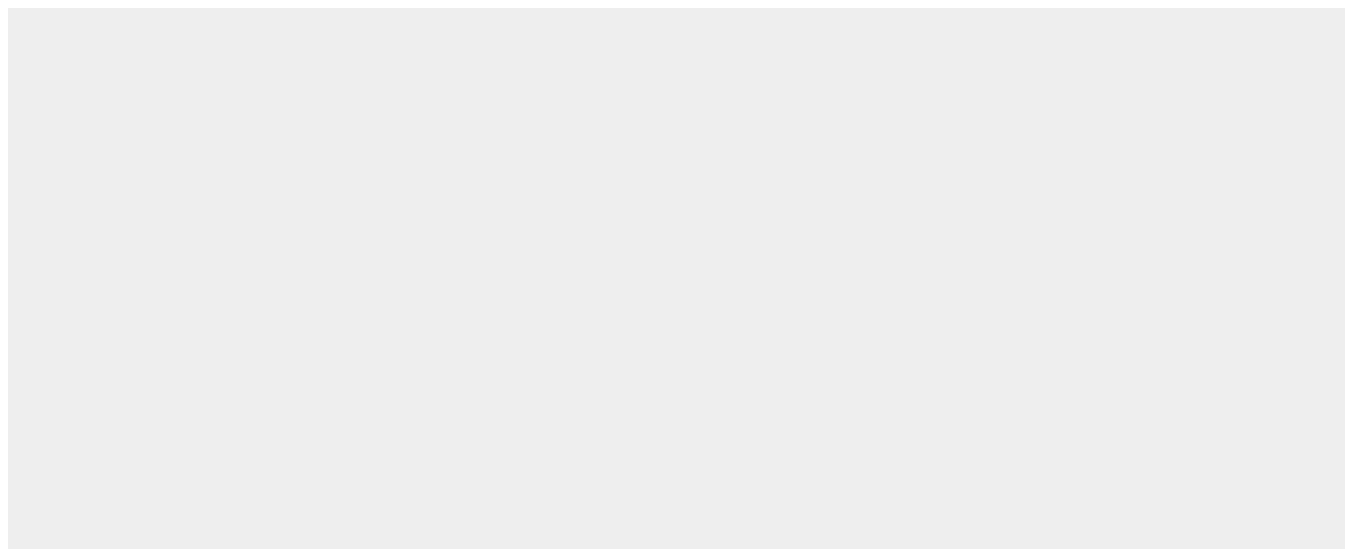
Expressed in normal parenchymal cells, endothelial cells, fibroblasts and tumor-derived epithelial cells

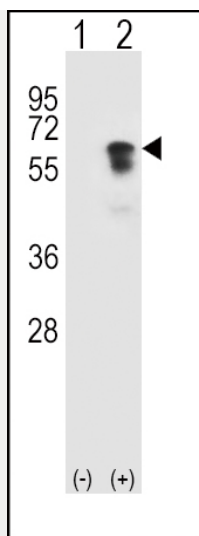
**Activin Receptor Type IA (ACVR1) Antibody (Center R147) - Protocols**

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

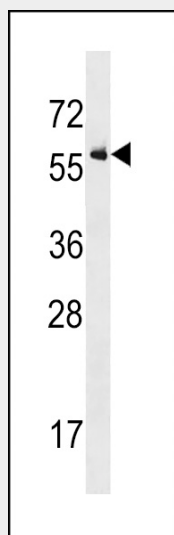
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

**Activin Receptor Type IA (ACVR1) Antibody (Center R147) - Images**

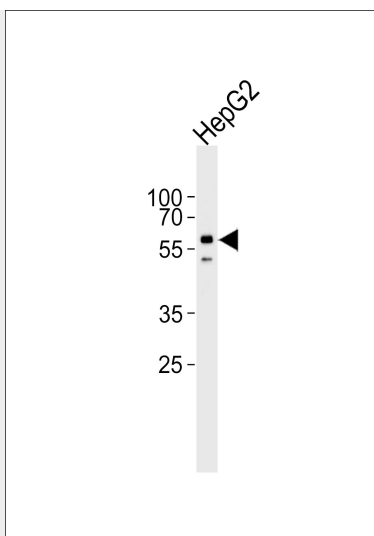




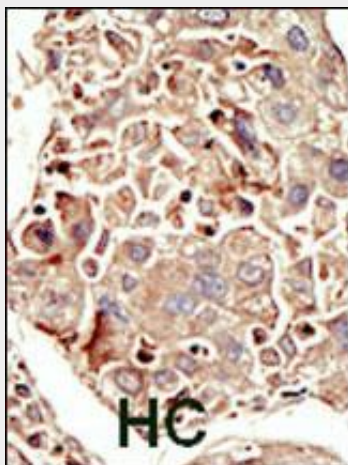
Western blot analysis of ACVR1 (arrow) using rabbit polyclonal ACVR1 Antibody (R147) (Cat.#AP7806c). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected (Lane 2) with the ACVR1 gene.



ACVR1 Antibody (R147) (Cat. #AP7806c) western blot analysis in U937 cell line lysates (35ug/lane). This demonstrates the ACVR1 antibody detected the ACVR1 protein (arrow).



Western blot analysis of lysate from HepG2 cell line, using ACVR1 Antibody (R147)(Cat. # AP7806c). AP7806c was diluted at 1:1000. A goat anti-rabbit IgG H&L(HRP) at 1:5000 dilution was used as the secondary antibody. Lysate at 35ug.



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

#### **Activin Receptor Type IA (ACVR1) Antibody (Center R147) - 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 (activin A type I receptor) signals a particular transcriptional response in concert with activin type II receptors.

#### **Activin Receptor Type IA (ACVR1) Antibody (Center R147) - References**

Schneider-Kolsky, M.E., et al., Placenta 23(4):294-302 (2002).

Roijer, E., et al., Mamm. Genome 9(3):266-268 (1998).

Attisano, L., et al., Cell 75(4):671-680 (1993).

ten Dijke, P., et al., Oncogene 8(10):2879-2887 (1993).

Matsuzaki, K., et al., J. Biol. Chem. 268(17):12719-12723 (1993).

**Activin Receptor Type IA (ACVR1) Antibody (Center R147) - Citations**

- [BMP7 is a podocyte survival factor and rescues podocytes from diabetic injury.](#)
- [A limited set of human MicroRNA is deregulated in follicular thyroid carcinoma.](#)