

**Goat Anti-ACVR1 Antibody**  
Peptide-affinity purified goat antibody  
Catalog # AF1022a

**Specification**

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**Goat Anti-ACVR1 Antibody - Product Information**

Application	IHC, WB
Primary Accession	<a href="#">Q04771</a>
Other Accession	<a href="#">NP_001096</a> , <a href="#">90</a>
Reactivity	Human
Predicted	Mouse, Rat, Dog
Host	Goat
Clonality	Polyclonal
Concentration	100ug/200ul
Isotype	IgG
Calculated MW	57153

**Goat Anti-ACVR1 Antibody - Additional Information**

**Gene ID** 90

**Other Names**

Activin receptor type-1, 2.7.11.30, 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

**Format**

0.5 mg IgG/ml in Tris saline (20mM Tris pH7.3, 150mM NaCl), 0.02% sodium azide, with 0.5% bovine serum albumin

**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**

Goat Anti-ACVR1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

**Goat Anti-ACVR1 Antibody - 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:<a href="http://www.uniprot.org/citations/20628059" target="\_blank">20628059</a>, PubMed:<a href="http://www.uniprot.org/citations/22977237" target="\_blank">22977237</a>). As a type I receptor, forms heterotetrameric receptor complexes with the type II receptors AMHR2, ACVR2A or ACVR2B (PubMed:<a href="http://www.uniprot.org/citations/17911401" target="\_blank">17911401</a>). Upon binding of ligands such as BMP7 or GDF2/BMP9 to the heteromeric complexes, type II receptors transphosphorylate ACVR1 intracellular domain (PubMed:<a href="http://www.uniprot.org/citations/25354296" target="\_blank">25354296</a>). In turn, ACVR1 kinase domain is activated and subsequently phosphorylates SMAD1/5/8 proteins that transduce the signal (PubMed:<a href="http://www.uniprot.org/citations/9748228" target="\_blank">9748228</a>). 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:<a href="http://www.uniprot.org/citations/17911401" target="\_blank">17911401</a>). 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**

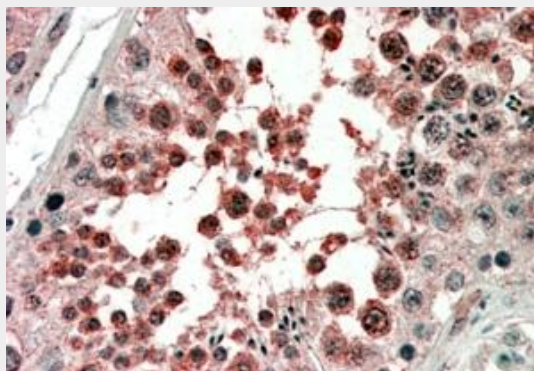
Expressed in normal parenchymal cells, endothelial cells, fibroblasts and tumor-derived epithelial cells

#### **Goat Anti-ACVR1 Antibody - Protocols**

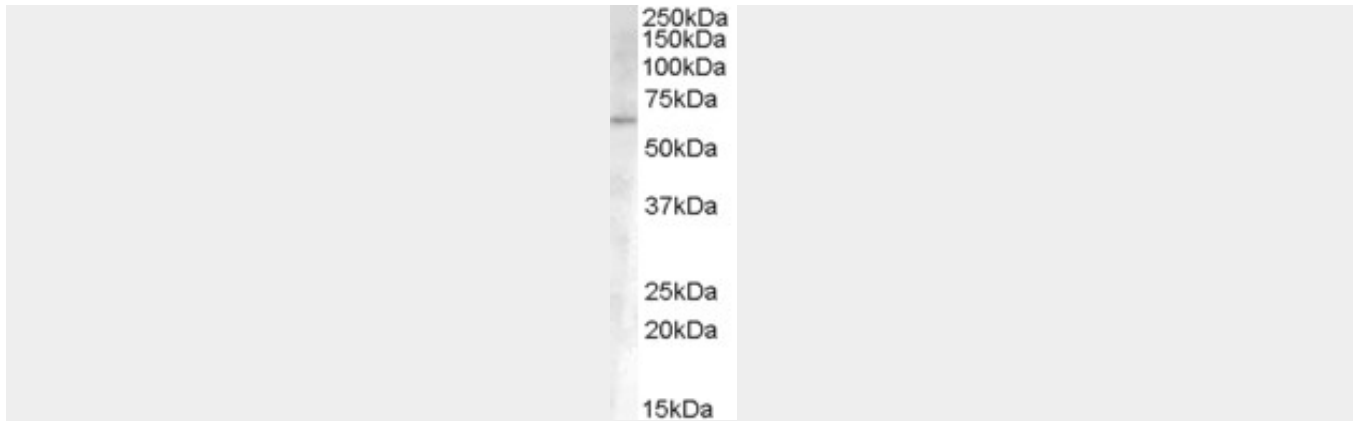
Provided below are standard protocols that you may find useful for product applications.

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

#### **Goat Anti-ACVR1 Antibody - Images**



AF1022a (4 µg/ml) staining of paraffin embedded Human Testis. Steamed antigen retrieval with citrate buffer pH 6, AP-staining.



AF1022a (0.3 µg/ml) staining of Human Umbilical Cord lysate (35 µg protein in RIPA buffer). Primary incubation was 1 hour. Detected by chemiluminescence.

### Goat Anti-ACVR1 Antibody - 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. This gene encodes activin A type I receptor which signals a particular transcriptional response in concert with activin type II receptors. Mutations in this gene are associated with fibrodysplasia ossificans progressive.

### Goat Anti-ACVR1 Antibody - References

An approach based on a genome-wide association study reveals candidate loci for narcolepsy. Shimada M, et al. Hum Genet, 2010 Oct. PMID 20677014.  
Comprehensive analysis of common genetic variation in 61 genes related to steroid hormone and insulin-like growth factor-I metabolism and breast cancer risk in the NCI breast and prostate cancer cohort consortium. Canzian F, et al. Hum Mol Genet, 2010 Oct 1. PMID 20634197.  
Molecular consequences of the ACVR1(R206H) mutation of fibrodysplasia ossificans progressiva. Song GA, et al. J Biol Chem, 2010 Jul 16. PMID 20463014.  
Activin signaling in microsatellite stable colon cancers is disrupted by a combination of genetic and epigenetic mechanisms. Jung B, et al. PLoS One, 2009 Dec 14. PMID 20011542.  
Autocrine bone morphogenetic protein-9 signals through activin receptor-like kinase-2/Smad1/Smad4 to promote ovarian cancer cell proliferation. Herrera B, et al. Cancer Res, 2009 Dec 15. PMID 19996292.