

**ACVR1C Antibody**  
Catalog # ASC10763**Specification****ACVR1C Antibody - Product Information**

Application	<b>WB</b>
Primary Accession	<a href="#">Q04771</a>
Other Accession	<a href="#">Q8NER5</a> , <a href="#">90</a>
Reactivity	<b>Human, Mouse, Rat</b>
Host	<b>Rabbit</b>
Clonality	<b>Polyclonal</b>
Isotype	<b>IgG</b>
Application Notes	<b>ACVR1C antibody can be used for detection of ACVR1C by Western blot at 1 and 2 µg/mL.</b>

**ACVR1C Antibody - Additional Information**Gene ID **90****Target/Specificity**

ACVR1C antibody was raised against a 15 amino acid synthetic peptide near the amino terminus of the human ACVR1C. <br><br>The immunogen is located within amino acids 130 - 180 of ACVR1C.

**Reconstitution & Storage**

ACVR1C antibody can be stored at 4°C for three months and -20°C, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.

**Precautions**

ACVR1C Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

**ACVR1C 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/17911401" target="\_blank">17911401</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

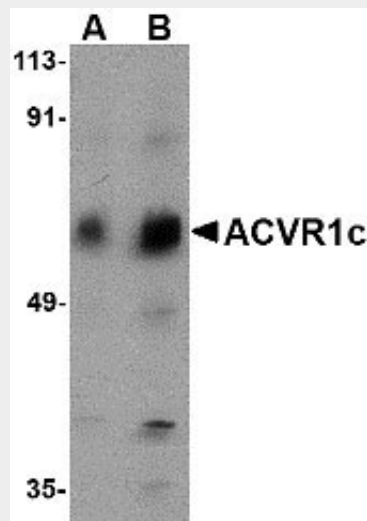
Expressed in normal parenchymal cells, endothelial cells, fibroblasts and tumor-derived epithelial cells

### ACVR1C 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](#)

### ACVR1C Antibody - Images



Western blot analysis of ACVR1C in human placenta tissue lysate with ACVR1C antibody at (A) 1 and (B) 2 µg/mL.

### ACVR1C Antibody - Background

ACVR1C Antibody: 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 and two type II receptors. ACVR1C, also known as ALK7, is a type I activin receptor and plays a role in cell differentiation, growth arrest and apoptosis. ACVR1C can mediate signaling by ligands such as Nodal, GDF-1/3, activin B and activin AB, all of which can also signal through the ubiquitous activin type I receptor ACVR1B (also known as ALK4). ACVR1C is a novel marker specifically expressed during the late phase of adipocyte differentiation. ACVR1C is dispensable for mouse embryogenesis, which suggests alternative functions for this receptor in postnatal development and tissue homeostasis. ACVR1C plays an important role in regulating the functional plasticity of pancreatic islets, negatively affecting beta-cell function by mediating the effects of activin B on Ca<sup>2+</sup> signaling.

### **ACVR1C Antibody - References**

Tsuchida K, Sawchenko PE, Nishikawa S, et al. Molecular cloning of a novel type I receptor serine/threonine kinase for the TGF beta superfamily from rat brain. *Mol. Cell. Neurosci.*1996; 7:467-78.

Reissmann E, Jornvall H, Blokzijl A, et al. The orphan receptor ALK7 and the activin receptor ALK4 mediate signaling by nodal proteins during vertebrate development. *Genes Dev.*2001; 15:2010-22.

Tsuchida K, Nakatani M, Yamakawa N, et al. Activin isoforms signal through type I receptor serine/threonine kinase ALK7. *Mol. Cell Endocrinol.*2004; 220:59-65.

Kogame M, Matsuo S, Nakatani M, et al. ALK7 is a novel marker for adipocyte differentiation. *J. Med. Invest.*2006; 53:238-45.