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ACVR2B Antibody (N-term) Blocking Peptide

Synthetic peptide
Catalog # BP7105a

Specification

ACVR2B Antibody (N-term) Blocking Peptide - Product Information

Primary Accession Q13705

ACVR2B Antibody (N-term) Blocking Peptide - Additional Information

Gene ID 93

Other Names
Activin receptor type-2B, Activin receptor type IIB, ACTR-IIB, ACVR2B

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP7105a was selected from the N-term region of human ACVR2B. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

ACVR2B Antibody (N-term) Blocking Peptide - Protein Information

Name ACVR2B

Function
Transmembrane serine/threonine kinase activin type-2 receptor forming an activin receptor complex with activin type-1 serine/threonine kinase receptors (ACVR1, ACVR1B or ACVR1c). Transduces the activin signal from the cell surface to the cytoplasm and is thus regulating many physiological and pathological processes including neuronal differentiation and neuronal survival, hair follicle development and cycling, FSH production by the pituitary gland, wound healing, extracellular matrix production, immunosuppression and carcinogenesis. Activin is also thought to have a paracrine or autocrine role in follicular development in the ovary. Within the receptor complex, the type-2 receptors act as a primary activin receptors (binds activin-A/INHBA, activin-B/INHBB as well as inhibin- A/INHA-INHBA). The type-1 receptors like ACVR1B act as downstream transducers of activin signals. Activin binds to type-2 receptor at the plasma membrane and activates its serine-threonine kinase. The activated receptor type-2 then phosphorylates and activates the type-1 receptor. Once activated, the type-1 receptor binds and

phosphorylates the SMAD proteins SMAD2 and SMAD3, on serine residues of the C-terminal tail. Soon after their association with the activin receptor and subsequent phosphorylation, SMAD2 and SMAD3 are released into the cytoplasm where they interact with the common partner SMAD4. This SMAD complex translocates into the nucleus where it mediates activin-induced transcription. Inhibitory SMAD7, which is recruited to ACVR1B through FKBP1A, can prevent the association of SMAD2 and SMAD3 with the activin receptor complex, thereby blocking the activin signal. Activin signal transduction is also antagonized by the binding to the receptor of inhibin-B via the IGSF1 inhibin coreceptor.

Cellular Location
Cell membrane; Single-pass type I membrane protein

ACVR2B Antibody (N-term) Blocking Peptide - Protocols

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

- Blocking Peptides

ACVR2B Antibody (N-term) Blocking Peptide - Images

ACVR2B Antibody (N-term) Blocking Peptide - 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. Type II receptors are considered to be constitutively active kinases. ACVR2B (activin A type IIB receptor) displays a 3- to 4-fold higher affinity for the ligand than activin A type II receptor.

ACVR2B Antibody (N-term) Blocking Peptide - References

Harrison, C.A., et al., J. Biol. Chem. 279(27):28036-28044 (2004).Martins da Silva, S.J., et al., Dev. Biol. 266(2):334-345 (2004).Casagrandi, D., et al., Mol. Hum. Reprod. 9(4):199-203 (2003).Shin, B.K., et al., J. Biol. Chem. 278(9):7607-7616 (2003).Schneider-Kolsky, M.E., et al., Placenta 23(4):294-302 (2002).