

Anti-ACVR2B Picoband Antibody

Catalog # ABO12660

Product Information

Application	WB
Primary Accession	Q13705
Host	Rabbit
Reactivity	Human, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Activin receptor type-2B(ACVR2B) detection. Tested with WB in Human;Rat.

Reconstitution Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	93
Other Names	Activin receptor type-2B, 2.7.11.30, Activin receptor type IIB, ACTR-IIB, ACVR2B
Calculated MW	57724
Application Details	Western blot, 0.1-0.5 µg/ml, Human, Rat
Subcellular Localization	Cell membrane ; Single-pass type I membrane protein .
Source	Eukaryota
Protein Name	Activin receptor type-2B
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human ACVR2B (431-466aa VVHKMRPTIKDHWLKHPLAQLCVTIEECWDHDAE), identical to the related mouse and rat sequences.
Purification	Immunogen affinity purified.
Cross Reactivity	No cross reactivity with other proteins.
Storage	At -20° C for one year. After reconstitution, at 4° C for one month. It can also be aliquotted and stored frozen at -20° C for a longer time.Avoid repeated freezing and thawing.

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

Background

Activin receptor type-2B is a protein that in humans is encoded by the ACVR2B gene. 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. This ACVR2B gene encodes activin A type IIB receptor, which displays a 3- to 4-fold higher affinity for the ligand than activin A type II receptor.

Images

Western blot analysis of ACVR2B expression in rat skeletal muscle extract (lane 1) and MCF-7 whole cell lysates (lane 2). ACVR2B at 55KD was detected using rabbit anti-ACVR2B Antigen Affinity purified polyclonal antibody (Catalog # ABO12660) at 0.5 µg/mL. The blot was developed using chemiluminescence (ECL) method .



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