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ACVR2B Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7105a

Product Information

Application	WB, E
Primary Accession	Q13705
Reactivity	Human, Rat, Mouse
Predicted	Bovine, Canine
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	57724
Antigen Region	1-30

Additional Information

Gene ID	93
Other Names	Activin receptor type-2B, Activin receptor type IIB, ACTR-IIB, ACVR2B
Target/Specificity	This ACVR2B antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide selected between aa 1 and 30 of human ACVR2B.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
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	ACVR2B Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

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

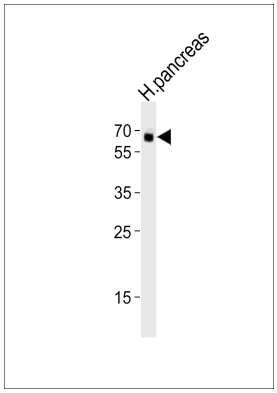
Background

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.

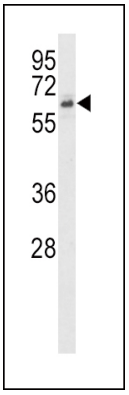
References

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).

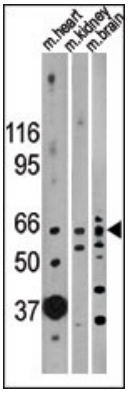
Images



Western blot analysis of lysate from human pancreas tissue lysate, using ACVR2B Antibody (S14)(Cat. #AP7105A). AP7105A was diluted at 1:1000. A goat anti-rabbit IgG H&L(HRP) at 1:10000 dilution was used as the secondary antibody. Lysate at 35ug.



Western blot analysis of ACVR2B (N-term) (Cat. #AP7105a) in Jurkat cell line lysates (35ug/lane).ACVR2B (arrow) was detected using the purified Pab.



Western blot analysis of anti-ACVR2B Antibody (N-term) (Cat. #AP7105a) in mouse heart, kidney and brain lysates (35ug/lane). ACVR2B (arrow) was detected using the purified Pab.

Citations

- Myostatin is associated with age-related human muscle stem cell dysfunction.
- Activin receptors regulate the oligodendrocyte lineage in health and disease.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.