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ACVR1B Antibody

Mouse Monoclonal Antibody (Mab)
Catalog # AM1863b

Product Information

Application	WB, E
Primary Accession	P36896
Other Accession	NP_004293.1, NP_064733.3
Reactivity	Mouse
Predicted	Rat, Bovine, Canine, Rabbit, Chicken
Host	Mouse
Clonality	Monoclonal
Isotype	IgG1,K
Clone Names	179CT11.2.1
Calculated MW	56807

Additional Information

Gene ID	91
Other Names	Activin receptor type-1B, Activin receptor type IB, ACTR-IB, Activin receptor-like kinase 4, ALK-4, Serine/threonine-protein kinase receptor R2, SKR2, ACVR1B, ACVRLK4, ALK4
Target/Specificity	This ACVR1B monoclonal antibody is generated from mouse immunized with ACVR1B recombinant protein.
Dilution	WB~~1:500~1000 E~~Use at an assay dependent concentration.
Format	Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column, 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	ACVR1B Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	ACVR1B
Synonyms	ACVRLK4, ALK4
Function	Transmembrane serine/threonine kinase activin type-1 receptor forming an

activin receptor complex with activin receptor type-2 (ACVR2A or ACVR2B). Transduces the activin signal from the cell surface to the cytoplasm and is thus regulating a 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, type-2 receptors (ACVR2A and/or ACVR2B) act as a primary activin receptors whereas 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 such as ACVR1B. 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. ACVR1B also phosphorylates TDP2.

Cellular Location	Cell membrane; Single-pass type I membrane protein
Tissue Location	Expressed in many tissues, most strongly in kidney, pancreas, brain, lung, and liver

Background

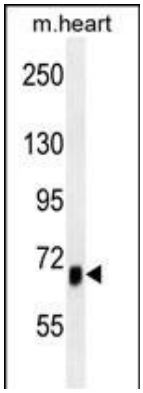
This gene encodes an activin A type IB receptor. Activins are dimeric growth and differentiation factors which belong to the transforming growth factor-beta (TGF-beta) superfamily of structurally related signaling proteins. Activins signal through a heteromeric complex of receptor serine kinases which include at least two type I and two type II receptors. This protein is a type I receptor which is essential for signaling. Mutations in this gene are associated with pituitary tumors. Alternate splicing results in multiple transcript variants.

References

Rose, J.E., et al. Mol. Med. 16 (7-8), 247-253 (2010) :
Suzuki, K., et al. Biochem. Biophys. Res. Commun. 394(3):639-645(2010)
Calvanese, L., et al. J. Pept. Sci. 15(3):175-183(2009)
Esguerra, C.V., et al. Development 134(24):4381-4393(2007)
Maguire, P.B., et al. Proteomics 2(6):642-648(2002)

Images

ACVR1B Antibody (Cat. #AM1863b) western blot analysis in mouse heart tissue lysates (35µg/lane).This demonstrates the ACVR1B antibody detected the ACVR1B protein (arrow).



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