

Anti-ACVR1B Antibody

Rabbit polyclonal antibody to ACVR1B

Catalog # AP59474

Product Information

Application	WB, IHC
Primary Accession	P36896
Other Accession	Q61271
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	56807

Additional Information

Gene ID	91
Other Names	ACVRLK4; ALK4; Activin receptor type-1B; Activin receptor type IB; ACTR-IB; Activin receptor-like kinase 4; ALK-4; Serine/threonine-protein kinase receptor R2; SKR2
Target/Specificity	Recognizes endogenous levels of ACVR1B protein.
Dilution	WB~~WB (1/500 - 1/1000), IHC (1/100 - 1/200) IHC~~WB (1/500 - 1/1000), IHC (1/100 - 1/200)
Format	Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.09% (W/V) sodium azide.
Storage	Store at -20 °C.Stable for 12 months from date of receipt

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

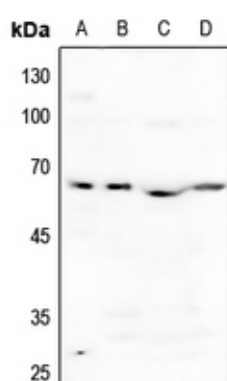
Tissue Location

Expressed in many tissues, most strongly in kidney, pancreas, brain, lung, and liver

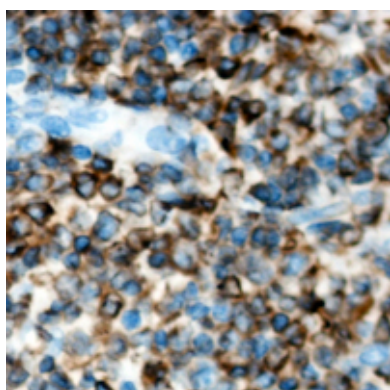
Background

KLH-conjugated synthetic peptide encompassing a sequence within the center region of human ACVR1B. The exact sequence is proprietary.

Images



Western blot analysis of ACVR1B expression in Hela (A), mouse liver (B), rat lung (C), rat spleen (D) whole cell lysates.



Immunohistochemical analysis of ACVR1B staining in human lymph node formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

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