



Rabbit Anti-Activin A Receptor Type IB antibody

SL3763R

Product Name:	Activin A Receptor Type IB
Chinese Name:	激活素受体1B抗体
Alias:	Activin A receptor type 1B; Activin A receptor type II like kinase 4; Activin A type 1B receptor; Activin A type IB receptor; Activin receptor like kinase 4; Activin receptor type 1B; ACTR IB; ACTRIB; ACVR 1B; ACVR1B; ACVRLK 4; ACVRLK4; ALK 4; ALK4; Serine(threonine) protein kinase receptor R2; SKR 2; SKR2.
Organism Species:	Rabbit
Clonality:	Polyclonal
React Species:	Human,Mouse,Rat,Dog,Pig,Cow,Horse,
Applications:	ELISA=1:500-1000IHC-P=1:400-800IHC-F=1:400-800IF=1:100-500 (Paraffin sections need antigen repair) not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Molecular weight:	53kDa
Cellular localization:	The cell membrane
Form:	Lyophilized or Liquid
Concentration:	1mg/ml
immunogen:	KLH conjugated synthetic peptide derived from human Activin A Receptor Type IB:301-400/505
Lsotype:	IgG
Purification:	affinity purified by Protein A
Storage Buffer:	0.01M TBS(pH7.4) with 1% BSA, 0.03% Proclin300 and 50% Glycerol.
Storage:	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. The lyophilized antibody is stable at room temperature for at least one month and for greater than a year when kept at -20°C. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.
PubMed:	PubMed
Product Detail:	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 a 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.

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.

Subunit:

Forms an activin receptor complex with activin receptor type-2 (ACVR2A or ACVR2B). Interacts with TDP2. Interacts with AIP1, FKBP1A, IGSF1, TDGF1, SMAD2, SMAD3 and SMAD7.

Subcellular Location:

Cell membrane; Single-pass type I membrane protein.

Tissue Specificity:

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

Post-translational modifications:

Autophosphorylated. Phosphorylated by activin receptor type-2 (ACVR2A or ACVR2B) in response to activin-binding at serine and threonine residues in the GS domain. Phosphorylation of ACVR1B by activin receptor type-2 regulates association

with SMAD7.

Ubiquitinated. Level of ubiquitination is regulated by the SMAD7-SMURF1 complex.

DISEASE:

Note=ACVR1B is abundantly expressed in systemic sclerosis patient fibroblasts and production of collagen is also induced by activin-A/INHBA. This suggests that the activin/ACRV1B signaling mechanism is involved in systemic sclerosis.

Similarity:

Belongs to the protein kinase superfamily. TKL Ser/Thr protein kinase family. TGFB receptor subfamily.

Contains 1 GS domain.

Contains 1 protein kinase domain.

SWISS:

P36896

Gene ID:

91

Database links:

[Entrez Gene: 91](#)Human

[Entrez Gene: 11479](#)Mouse

[Entrez Gene: 29381](#)Rat

[Omim: 601300](#)Human

[SwissProt: P36896](#)Human

[SwissProt: Q61271](#)Mouse

[SwissProt: P80202](#)Rat

[Unigene: 438918](#)Human

[Unigene: 308467](#)Mouse

[Unigene: 214018](#)Rat

Important Note:

This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

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