ARG40270
anti-ACVR1B / ALK4 antibody

Package: 100 µl
Store at: -20°C

Summary

Product Description	Rabbit Polyclonal antibody recognizes ACVR1B / ALK4
Tested Reactivity	Hu, Ms, Rat
Tested Application	FACS, WB
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Target Name	ACVR1B / ALK4
Species	Human
Immunogen	KLH-conjugated synthetic peptide corresponding to aa. 39-68 of Human ACVR1B / ALK4.
Conjugation	Un-conjugated
Alternate Names	ALK4; ALK-4; Activin receptor-like kinase 4; EC 2.7.11.30; ACTRIB; ACVRLK4; Activin receptor type IB; ACTR-IB; SKR2; Serine/threonine-protein kinase receptor R2; Activin receptor type-1B

Application Instructions

Application table

Application	Dilution
FACS	1:10 - 1:50
WB	1:1000

Application Note	* The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.
Positive Control	Human brain
Observed Size	55 kDa

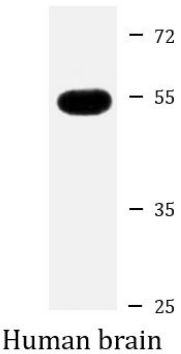
Properties

Form	Liquid
Purification	Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Buffer	PBS and 0.09% (W/V) Sodium azide.
Preservative	0.09% (W/V) Sodium azide
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C or below. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.
Note	For laboratory research only, not for drug, diagnostic or other use.

Bioinformation

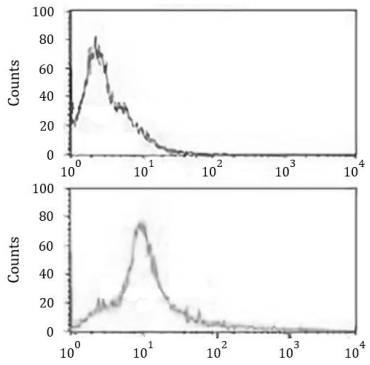
Gene Symbol	ACVR1B
Gene Full Name	activin A receptor, type IB
Background	This gene encodes an activin A type IB receptor. Activins are dimeric growth and differentiation factors which belong to the transforming growth factor-beta (TGF-beta) superfamily of structurally related signaling proteins. Activins 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.[provided by RefSeq, Jun 2010]
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. [UniProt]
Calculated Mw	57 kDa
PTM	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. Ubiquitinated. [UniProt]
Cellular Localization	Cell membrane; Single-pass type I membrane protein. [UniProt]

Images



ARG40270 anti-ACVR1B / ALK4 antibody WB image

Western blot: 20 µg of Human brain lysate stained with ARG40270 anti-ACVR1B / ALK4 antibody at 1:1000 dilution.



ARG40270 anti-ACVR1B / ALK4 antibody FACS image

Flow Cytometry: 293 cells stained with ARG40270 anti-ACVR1B / ALK4 antibody (bottom histogram) or without primary antibody as control (top histogram), followed by incubation with FITC labelled secondary antibody.