abcam

ab76940

Anti-Activin Receptor Type IIB/ACVR2B antibody [1C11]

Anti-Activin Receptor Type IIB/ACVR2B antibody [1C11] (ab76940) is a mouse monoclonal antibody detecting Activin Receptor Type IIB/ACVR2B in **Western Blot, Flow Cytometry, ELISA**. Suitable for **Human,**.

- Over 10 publications
- Trusted since 2009

Key facts

Isotype	IgG2a
Host species	Mouse
Storage buffer	pH: 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Fragment Protein within Human ACVR2B aa 1-150. The exact immunogen used to generate this antibody is proprietary information. Database link Q13705
Carrier free	Yes
Clone number	1C11
Purity	Tissue culture supernatant
Light chain type	kappa

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	-
Notes	ab170191 - Mouse monoclonal IgG2a, is suitable for use as an isotype control with this antibody.

Predicted

Species	Rat, Sheep, Horse, Chicken, Cow, Dog, Pig, Chimpanzee, Macaque monkey
Dilution info	-
Notes	-

Not recommended

Species	Recombinant full length protein, Recombinant fragment - Human
Dilution info	-
Notes	-

ELISA

Tested

Species	Recombinant full length protein
Dilution info	-
Notes	-

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Rat, Sheep, Horse, Chicken, Cow, Dog, Pig, Chimpanzee, Macaque monkey
Dilution info	-

Notes	-

Not recommended

Species	Recombinant fragment - Human
Dilution info	-
Notes	-

WB

Tested

Species	Recombinant fragment - Human
Dilution info	-
Notes	-

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Rat, Sheep, Horse, Chicken, Cow, Dog, Pig, Chimpanzee, Macaque monkey
Dilution info	-
Notes	-

Not recommended

Species	Recombinant full length protein
Dilution info	-
Notes	-

Target data

See full target information 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.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

What is this antibody validated in?
Anti-Activin Receptor Type IIB/ACVR2B antibody [1C11] (ab76940) is a mouse monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Flow Cyt), ELISA in Human, samples.

What is the molecular weight of Activin Receptor Type IIB/ACVR2B?
Anti-Activin Receptor Type IIB/ACVR2B [1C11] (ab76940) specifically detects a band for Activin Receptor Type IIB/ACVR2B (UniProt: Q13705) at a molecular weight of 58kDa.

Trusted by the scientific community

Anti-Activin Receptor Type IIB/ACVR2B [1C11] (ab76940) was first used in a scientific publication in 2009 and has been cited over 10 times in peer-reviewed journals.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Activin receptor type IIB (ACVR2B) also known as activin receptor type 2B or ACTR-IIB is a transmembrane serine/threonine kinase receptor. ACVR2B primarily binds activins though it can also interact with other ligands. This receptor weighs approximately 57 kDa. ACVR2B is widely expressed in various tissues including skeletal muscle heart and nervous tissue. The receptor plays an important role in transmitting signals from extracellular ligands to intracellular pathways influencing development and cellular functions.
Biological function summary	Activin receptor type IIB participates in the regulation of muscle growth by controlling the activity of growth inhibitory proteins. The receptor forms complexes with type I receptor kinases initiating signal transduction events. ACVR2B also interfaces with the inhibin α subunit in the context of reproductive biology. Its involvement in these complexes and interactions underlines its significance in modulating physiological processes such as cell proliferation and differentiation.
Pathways	Activin receptor type IIB plays a significant role in the TGF-beta signaling pathway and the myostatin pathway. These pathways regulate important cellular processes like muscular hypertrophy and tissue homeostasis. In these pathways ACVR2B interacts with proteins such as follistatin and myostatin. Follistatin acts as a binding protein modulating the activity of members in the TGF-beta superfamily including myostatin and activins highlighting ACVR2B's involvement in maintaining cellular equilibrium.
Associated diseases and disorders	Activin receptor type IIB has links to muscular dystrophy and cancer. In muscular dystrophy the receptor's signaling affects muscle repair and regeneration primarily through its interaction with myostatin a known negative regulator of muscle growth. In cancer aberrant signaling through ACVR2B could contribute to tumor progression by affecting cellular proliferation and differentiation rates. Understanding ACVR2B's involvement in these diseases provides insights into potential therapeutic targets.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

We do not recommend this combination. It is not covered by our product promise.

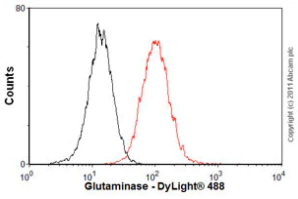
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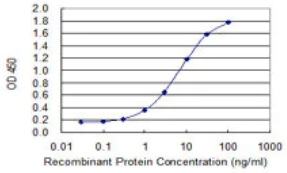
2 product images



Flow Cytometry - Anti-Activin Receptor Type IIB/ACVR2B antibody [1C11] (ab76940)

Activin Receptor Type IIB/ACVR2B Flow Cytometry staining using mouse Anti-Activin Receptor Type IIB/ACVR2B antibody

Overlay histogram showing HeLa cells stained with ab76940 (red line). The cells were fixed with 80% methanol (5 min) and incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab76940, 0.5µg/1x10^6 cells) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (ab96879) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG2a [ICIGG2A] (ab91361, 1µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed.
Please note that Abcam do not have any data for use of this antibody on non-fixed cells. We welcome any customer feedback.
This image was generated using the ascites version of the product.



ELISA - Anti-Activin Receptor Type IIB/ACVR2B antibody [1C11] (ab76940)

Detection limit for recombinant GST tagged ACVR2B is 0.1 ng/ml as a capture antibody.

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