

ACTR-IIB (G-7): sc-376593

BACKGROUND

Members of the transforming growth factor β superfamily bind to a pair of transmembrane proteins, known as receptor types I and II, which contain serine/threonine kinases and associate to form a signaling complex. Activin has been shown to bind a heteromeric noncovalent complex, which consists of a type I receptor, ACTR-IA (also designated ACVR1 and ALK-2) or ACTR-IB (also designated ALK-4 and SKR2), and a type II receptor, ACTR-IIA (also designated ACVR2A) or ACTR-IIB (also designated ACVR2B). Both receptor types are highly expressed in brain. The activin receptor family members are thought to mediate distinct effects on gene expression, cell differentiation, and morphogenesis in a dose dependent fashion.

REFERENCES

1. Attisano, L., et al. 1993. Identification of human activin and TGF β type I receptors that form heteromeric kinase complexes with type II receptors. *Cell* 75: 671-680.
2. Carcamo, J., et al. 1994. Type I receptors specify growth-inhibitory and transcriptional responses to transforming growth factor β and activin. *Mol. Cell. Biol.* 14: 3810-3821.
3. Rosenzweig, B.L., et al. 1995. Cloning and characterization of a human type II receptor for bone morphogenetic proteins. *Proc. Natl. Acad. Sci. USA* 92: 7632-7636.
4. Armes, N.A., et al. 1997. The ALK-2 and ALK-4 activin receptors transduce distinct mesoderm-inducing signals during early *Xenopus* development but do not cooperate to establish thresholds. *Development* 124: 3797-3804.

CHROMOSOMAL LOCATION

Genetic locus: ACVR2B (human) mapping to 3p22.2; Acvr2b (mouse) mapping to 9 F3.

SOURCE

ACTR-IIB (G-7) is a mouse monoclonal antibody raised against amino acids 108-177 of ACTR-IIB of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ACTR-IIB (G-7) is available conjugated to agarose (sc-376593 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376593 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376593 PE), fluorescein (sc-376593 FITC), Alexa Fluor[®] 488 (sc-376593 AF488), Alexa Fluor[®] 546 (sc-376593 AF546), Alexa Fluor[®] 594 (sc-376593 AF594) or Alexa Fluor[®] 647 (sc-376593 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-376593 AF680) or Alexa Fluor[®] 790 (sc-376593 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

ACTR-IIB (G-7) is recommended for detection of ACTR-IIB of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

ACTR-IIB (G-7) is also recommended for detection of ACTR-IIB in additional species, including canine and porcine.

Suitable for use as control antibody for ACTR-IIB siRNA (h): sc-40210, ACTR-IIB siRNA (m): sc-40211, ACTR-IIB shRNA Plasmid (h): sc-40210-SH, ACTR-IIB shRNA Plasmid (m): sc-40211-SH, ACTR-IIB shRNA (h) Lentiviral Particles: sc-40210-V and ACTR-IIB shRNA (m) Lentiviral Particles: sc-40211-V.

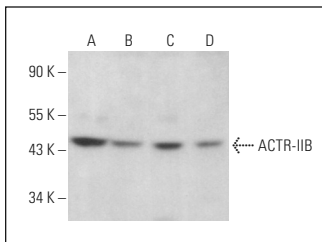
Molecular Weight of ACTR-IIB: 50 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, Hep G2 cell lysate: sc-2227 or Ramos cell lysate: sc-2216.

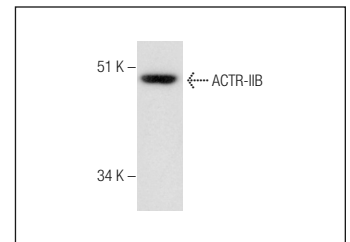
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

DATA



ACTR-IIB (G-7): sc-376593. Western blot analysis of ACTR-IIB expression in Jurkat (A), Hep G2 (B), MDA-MB-231 (C) and NIH/3T3 (D) whole cell lysates.



ACTR-IIB (G-7): sc-376593. Western blot analysis of ACTR-IIB expression in Ramos whole cell lysate.

SELECT PRODUCT CITATIONS

1. Wei, X., et al. 2019. Bach1 regulates self-renewal and impedes mesendodermal differentiation of human embryonic stem cells. *Sci. Adv.* 5: eaau7887.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.