SANTA CRUZ BIOTECHNOLOGY, INC.

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 ACVRI and ALK-2) or ACTR-IB (also designated ALK-4 and SKR2), and a type II receptor, ACTR-IIA (also designated ACVR2A) or ACTR-IB (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.
- 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 μg lgG_{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 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-376593 HRP), 200 µg/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 µg/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 µg/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 µg per 100-500 µg 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 mesenddermal differentiation of human embryonic stem cells. Sci. Adv. 5: eaau7887.
- 2. de Carvalho, M.R., et al. 2023. Effects of creatine supplementation on the myostatin pathway and myosin heavy chain isoforms in different skeletal muscles of resistance-trained rats. Nutrients 15: 2224.

STORAGE

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