

ACTR-IIB (9D10): sc-134245

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. and Smith, J.C. 1997. The ALK-2 and ALK-4 Activin receptors transduce distinct mesoderm-inducing signals during early *Xenopus* development but do not co-operate to establish thresholds. *Development* 124: 3797-3804.
5. Ebendal, T., et al. 1998. Bone morphogenetic proteins and their receptors: potential functions in the brain. *J. Neurosci. Res.* 51: 139-146.
6. Armes, N.A., et al. 1999. A short loop on the ALK-2 and ALK-4 activin receptors regulates signaling specificity but cannot account for all their effects on early *Xenopus* development. *J. Biol. Chem.* 274: 7929-7935.

CHROMOSOMAL LOCATION

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

SOURCE

ACTR-IIB (9D10) is a mouse monoclonal antibody raised against recombinant ACTR-IIB protein of human origin.

PRODUCT

Each vial contains 100 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

ACTR-IIB (9D10) is recommended for detection of ACTR-IIB of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

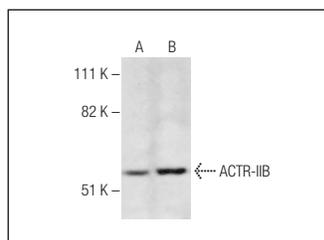
Molecular Weight of ACTR-IIB: 50 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, Hep G2 cell lysate: sc-2227 or K-562 whole cell lysate: sc-2203.

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).

DATA



ACTR-IIB (9D10): sc-134245. Western blot analysis of ACTR-IIB expression in Jurkat (A) and K-562 (B) whole cell lysates.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.