

ACTR-IIB (ACEX12): sc-73682

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-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.

SOURCE

ACTR-IIB (ACEX12) is a mouse monoclonal antibody raised against the extracellular domain of ACTR-IIB of human origin.

PRODUCT

Each vial contains 100 μ g IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and protein stabilizer.

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

APPLICATIONS

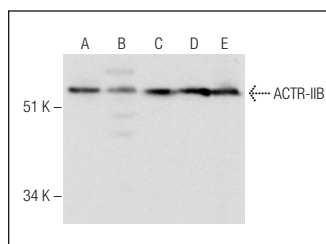
ACTR-IIB (ACEX12) is recommended for detection of ACTR-IIB of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)]; may cross-react with ACTR-IIA.

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

Molecular Weight of ACTR-IIB: 50 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, HeLa whole cell lysate: sc-2200 or K-562 whole cell lysate: sc-2203.

DATA



ACTR-IIB (ACEX12): sc-73682. Western blot analysis of ACTR-IIB expression in Hep G2 (A), HeLa (B), Jurkat (C), K-562 (D) and Ramos (E) 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.