

ACTR-IB (ALEX66): sc-73677

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 cooperate 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: ACVR1B (human) mapping to 12q13.13; Acvr1b (mouse) mapping to 15 F2.

SOURCE

ACTR-IB (ALEX66) is a mouse monoclonal antibody raised against the extracellular domain of ACTR-IB of human origin.

PRODUCT

Each vial contains 100 μ g IgG₁ in 1.0 mL PBS with < 0.1% sodium azide and protein stabilizer. Also available azide-free for blocking assays, sc-73677 L, 100 μ g/0.1 mL.

STORAGE

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

APPLICATIONS

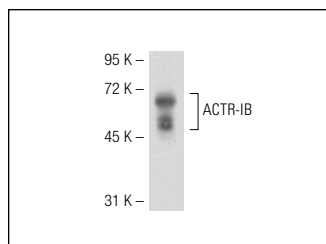
ACTR-IB (ALEX66) is recommended for detection of ACTR-IB of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)]; non cross-reactive with ACTR-IIB, ACTR-I, or ACTR-IIA.

Suitable for use as control antibody for ACTR-IB siRNA (h): sc-40208, ACTR-IB siRNA (m): sc-40209, ACTR-IB shRNA Plasmid (h): sc-40208-SH, ACTR-IB shRNA Plasmid (m): sc-40209-SH, ACTR-IB shRNA (h) Lentiviral Particles: sc-40208-V and ACTR-IB shRNA (m) Lentiviral Particles: sc-40209-V.

Molecular Weight of ACTR-IB: 55 kDa.

Positive Controls: mouse brain tissue extract: sc-2253.

DATA



ACTR-IB (ALEX66): sc-73677. Western blot analysis of ACTR-IB expression in mouse brain tissue extract.

SELECT PRODUCT CITATIONS

1. Wang, Q., et al. 2017. The crucial role of activin A/ALK4 pathway in the pathogenesis of Ang-II-induced atrial fibrosis and vulnerability to atrial fibrillation. *Basic Res. Cardiol.* 112: 47.

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.