

ACTR-IB (J07F): sc-73678

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., Cárcamo, J., Ventura, F., Weis, F.M., Massagué, J. and Wrana, J.L. 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., Weis, F.M., Ventura, F., Wieser, R., Wrana, J.L., Attisano, L. and Massagué, J. 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., Imamura, T., Okadome, T., Cox, G.N., Yamashita, H., ten Dijke, P., Heldin, C.H. and Miyazono, K. 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., Bengtsson, H. and Söderström, S. 1998. Bone morphogenetic proteins and their receptors: potential functions in the brain. *J. Neurosci. Res.* 51: 139-146.
6. Armes, N.A., Neal, K.A. and Smith, J.C. 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* (mouse) mapping to 15 F2.

SOURCE

ACTR-IB (J07F) is a rat monoclonal antibody raised against the extracellular domain of ACTR-IB of mouse origin.

PRODUCT

Each vial contains 100 μ g IgG_{2a} in 1.0 ml PBS with < 0.1% sodium azide and protein stabilizer.

RESEARCH USE

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

APPLICATIONS

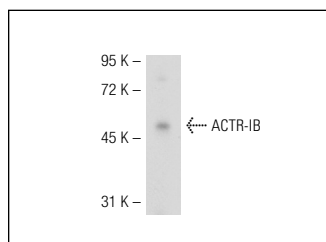
ACTR-IB (J07F) is recommended for detection of ACTR-IB of mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)].

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

Molecular Weight of ACTR-IB: 50 kDa.

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

DATA



ACTR-IB (J07F): sc-73678. Western blot analysis of ACTR-IB expression in mouse brain tissue extract.

STORAGE

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

PROTOCOLS

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