SANTA CRUZ BIOTECHNOLOGY, INC.

ACTR-II (149/1): sc-57022

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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

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2. Carcamo, J., Weis, F.M., Ventura, F., Wieser, R., Wrana, J.L., Attisano, L. and Massague, J. 1994. Type I receptors specify growth-inhibitory and transcriptional responses to TGFβ 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 co-operate to establish thresholds. Development 124: 3797-3804.
5. Ebendal, T., Bengtsson, H. and Soderstrom, 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: ACVR2A (human) mapping to 2q22.3; Acvr2a (mouse) mapping to 2 C1.1.

SOURCE

ACTR-II (149/1) is a mouse monoclonal antibody raised against recombinant intracellular kinase domain of the Activin Receptor type II of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

ACTR-II (149/1) is recommended for detection of ACTR-II of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Molecular Weight of ACTR-II: 58 kDa.

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, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

STORAGE

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

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.