

ACTR-II (H-65): sc-25451

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 beta 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. Ames, 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. Ames, 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: ACVR2A (human) mapping to 2q22.3, ACVR2B (human) mapping to 3p22.2; Acvr2a (mouse) mapping to 2 C1.1, Acvr2b (mouse) mapping to 9 F3.

SOURCE

ACTR-II (H-65) is a rabbit polyclonal antibody raised against amino acids 396-460 of ACTR-IIA of human origin.

PRODUCT

Each vial contains 200 μ g IgG 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-II (H-65) is recommended for detection of ACTR-IIA and 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

ACTR-II (H-65) is also recommended for detection of ACTR-IIA and ACTR-IIB in additional species, including equine, canine, bovine, porcine and avian.

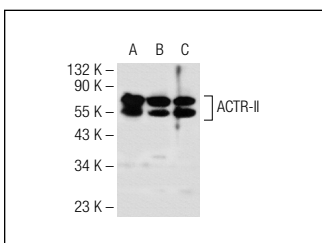
Molecular Weight of ACTR-II: 58 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, K-562 whole cell lysate: sc-2203 or Ramos cell lysate: sc-2216.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker[™] compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), 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). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz[™] Mounting Medium: sc-24941.

DATA



ACTR-II (H-65): sc-25451. Western blot analysis of ACTR-II expression in HeLa (A), K-562 (B) and Ramos (C) whole cell lysates.

RESEARCH USE

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

PROTOCOLS

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

MONOS
Satisfaction
Guaranteed

Try **ACTR-II (F-12): sc-390977** or **ACTR-II (149/1): sc-57022**, our highly recommended monoclonal alternatives to ACTR-II (H-65).