

# ACTR-IC (D-11): sc-376905

## BACKGROUND

ACTR-IC (activin receptor type 1C), also referred to as activin receptor-like kinase 7 (ALK-7), is a type I serine/threonine kinase receptor. ACTA-IC contains an extracellular binding domain, an intracellular serine/threonine kinase domain preceded by a GS box and a transmembrane domain. It is expressed throughout the digestive and central nervous system and localizes to the cell surface. Four ACTR-IC transcripts are generated by alternative splicing. Transcript 1 is the functional full length receptor, transcript 2 lacks a complete receptor binding domain and transcripts 3 and 4 are soluble proteins that lack a transmembrane domain. ACTR-IC is a receptor for Activin AB, Activin B and Nodal. In pancreatic cells, ACTR-IC forms a complex with activin receptor type IIB (ACTR-IIB). The kinase domain of ACTR-IC can induce Smad2 and Smad3 signalling pathways. In some cell lines, ACTR-IC overexpression induces apoptosis and inhibits proliferation.

## REFERENCES

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- Munir, S., et al. 2004. Nodal and ALK7 inhibit proliferation and induce apoptosis in human trophoblast cells. *J. Biol. Chem.* 279: 31277-31286.
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- Yeh, L.C., et al. 2005. Cartilage-derived morphogenetic proteins induce osteogenic gene expression in the C2C12 mesenchymal cell line. *J. Cell. Biochem.* 95: 173-188.
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- Xu, G., et al. 2006. Activin receptor-like kinase 7 induces apoptosis through up-regulation of Bax and down-regulation of Xiap in normal and malignant ovarian epithelial cell lines. *Mol. Cancer Res.* 4: 235-246.

## CHROMOSOMAL LOCATION

Genetic locus: ACVR1C (human) mapping to 2q24.1.

## SOURCE

ACTR-IC (D-11) is a mouse monoclonal antibody raised against amino acids 38-169 mapping near the N-terminus of ACTR-IC of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

ACTR-IC (D-11) is recommended for detection of ACTR-IC of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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).

Suitable for use as control antibody for ACTR-IC siRNA (h): sc-72337, ACTR-IC shRNA Plasmid (h): sc-72337-SH and ACTR-IC shRNA (h) Lentiviral Particles: sc-72337-V.

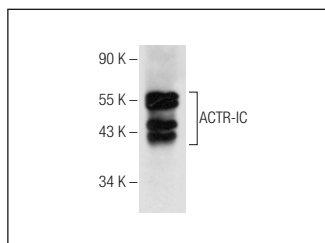
Molecular Weight of ACTR-IC: 55 kDa.

Positive Controls: T84 whole cell lysate: sc-364797 or MIA PaCa-2 cell lysate: sc-2285.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 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 m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## DATA



ACTR-IC (D-11): sc-376905. Western blot analysis of ACTR-IC expression in MIA PaCa-2 whole cell lysate.

## 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.