

# AFX1 (A-7): sc-373877

## BACKGROUND

FKHR (for forkhead in rhabdomyosarcoma), FKHL1, and AFX1 are members of a subfamily of the forkhead family of transcription factors. AFX1 expression is detected in a wide variety of tissues, and, like other FKHR proteins, AFX1 contains a single fork-head domain and serine-proline-rich region which mediate DNA binding. AFX1-mediated transcriptional activation is regulated by the serine/threonine kinase Akt1, which phosphorylates AFX1 and, in turn, sequesters AFX1 in the cytosol, thereby, blocking nuclear localization and DNA binding. Genetic mutations in FKHR genes, including the t(2;13) and t(1;3) translocations, are commonly found in alveolar rhabdomyosarcomas. Additionally, the t(x;11) translocation of the AFX1 gene, which involves the fusion of a serine-proline-rich sequence of AFX1 to the carboxy terminus of a truncated MLL, results in acute lymphocytic leukemia.

## REFERENCES

- Corral, J., et al. 1993. Acute leukemias of different lineages have similar MLL gene fusions encoding related chimeric proteins resulting from chromosomal translocation. *Proc. Natl. Acad. Sci. USA* 90: 8538-8542.
- Parry, P., et al. 1994. Cloning and characterization of the t(X;11) breakpoint from a leukemic cell line identify a new member of the forkhead gene family. *Genes Chromosomes Cancer* 11: 79-84.

## CHROMOSOMAL LOCATION

Genetic locus: FOXO4 (human) mapping to Xq13.1; Foxo4 (mouse) mapping to X C3.

## SOURCE

AFX1 (A-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 52-81 near the N-terminus of AFX1 of mouse origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-373877 X, 200 µg/0.1 ml.

AFX1 (A-7) is available conjugated to agarose (sc-373877 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-373877 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-373877 PE), fluorescein (sc-373877 FITC), Alexa Fluor® 488 (sc-373877 AF488), Alexa Fluor® 546 (sc-373877 AF546), Alexa Fluor® 594 (sc-373877 AF594) or Alexa Fluor® 647 (sc-373877 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-373877 AF680) or Alexa Fluor® 790 (sc-373877 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-373877 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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## STORAGE

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

## APPLICATIONS

AFX1 (A-7) is recommended for detection of AFX1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

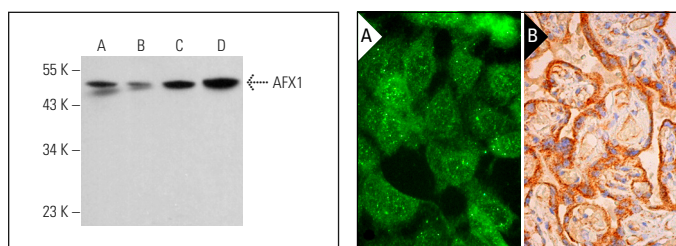
Suitable for use as control antibody for AFX1 siRNA (h): sc-29650, AFX1 siRNA (m): sc-29651, AFX1 shRNA Plasmid (h): sc-29650-SH, AFX1 shRNA Plasmid (m): sc-29651-SH, AFX1 shRNA (h) Lentiviral Particles: sc-29650-V and AFX1 shRNA (m) Lentiviral Particles: sc-29651-V.

AFX1 (A-7) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of AFX1 isoforms: 54/48 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, HeLa whole cell lysate: sc-2200 or NIH/3T3 whole cell lysate: sc-2210.

## DATA



AFX1 (A-7): sc-373877. Western blot analysis of AFX1 expression in NIH/3T3 (A), 3T3-L1 (B), HeLa (C) and Hep G2 (D) whole cell lysates.

AFX1 (A-7): sc-373877. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing nuclear and cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing cytoplasmic staining of trophoblastic cells (B).

## SELECT PRODUCT CITATIONS

- Yang, M., et al. 2016. From the cover: autophagy induction contributes to cadmium toxicity in mesenchymal stem cells via AMPK/FOXO3a/BECN1 signaling. *Toxicol. Sci.* 154: 101-114.
- Xi, J., et al. 2019. Tetrahydrocurcumin protects against spinal cord injury and inhibits the oxidative stress response by regulating FOXO4 in model rats. *Exp. Ther. Med.* 18: 3681-3687.
- Zhang, C., et al. 2020. FOXO4-DRI alleviates age-related testosterone secretion insufficiency by targeting senescent Leydig cells in aged mice. *Aging* 12: 1272-1284.
- Wang, J., et al. 2021. Neuropeptide Y mediates cardiac hypertrophy through microRNA-216b/FOXO4 signaling pathway. *Int. J. Med. Sci.* 18: 18-28.

## RESEARCH USE

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