SANTA CRUZ BIOTECHNOLOGY, INC.

AFX1 (N-19): sc-5221

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

FKHR (for forkhead in rhabdomyosarcoma), FKHRL1, and AFX1 are members of a subfamily of the forkhead family of transcription factors. AFX1, also known as FoxO4, is expressed in a wide variety of tissues and, like other FKHR proteins, AFX1 contains a single forkhead 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.

CHROMOSOMAL LOCATION

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

SOURCE

AFX1 (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of AFX1 of human origin.

PRODUCT

Each vial contains 200 µg IgG 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-5221 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-5221 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

AFX1 (N-19) is recommended for detection of AFX1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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) 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 (N-19) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of AFX1 isoforms: 54/48 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, Jurkat whole cell lysate: sc-2204 or CCRF-CEM cell lysate: sc-2225.

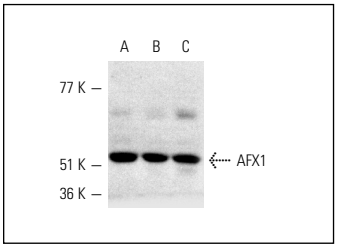
RESEARCH USE

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

STORAGE

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

DATA



AFX1 (N-19): sc-5221. Western blot analysis of AFX1 expression in K-562 (**A**), Jurkat (**B**) and CCRF-CEM (**C**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Stahl, M., et al. 2002. The forkhead transcription factor FoxO regulates transcription of p27Kip1 and Bim in response to IL-2. J. Immunol. 168: 5024-5031.
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3. Yalcin, S., et al. 2008. Foxo3 is essential for the regulation of ataxia telangiectasia mutated and oxidative stress-mediated homeostasis of hematopoietic stem cells. J. Biol. Chem. 283: 25692-25705.
4. John, G.B., et al. 2008. Foxo3 is a PI3K-dependent molecular switch controlling the initiation of oocyte growth. Dev. Biol. 321: 197-204.
5. Lappas, M., et al. 2010. Expression and localisation of FoxO3 and FoxO4 in human placenta and fetal membranes. Placenta 31: 1043-1050.
6. de Keizer, P.L., et al. 2010. Activation of forkhead box O transcription factors by oncogenic BRAF promotes $p21^{cip1}$-dependent senescence. Cancer Res. 70: 8526-8536.
7. Brenkman, A.B., et al. 2010. The DNA damage repair protein Ku70 interacts with FOXO4 to coordinate a conserved cellular stress response. FASEB J. 24: 4271-4280.
8. Lim, R., et al. 2011. Human labour is associated with decreased cytoplasmic FoxO4. Placenta 33: 52-59.