SANTA CRUZ BIOTECHNOLOGY, INC.

AFX1 (C-16): sc-5224

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 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

1. 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.
2. 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.
3. Davis, R.J., et al. 1995. Structural characterization of the FKHR gene and its rearrangement in alveolar rhabdomyosarcoma. Hum. Mol. Genet. 4: 2355-2362.
4. Peters, U., et al. 1997. AFX1 and p54nrb: fine mapping, genomic structure, and exclusion as candidate genes of X-linked dystonia parkinsonism. Hum. Genet. 100: 569-572.

CHROMOSOMAL LOCATION

Genetic locus: MLLT7 (human) mapping to Xq13.1; Mllt7 (mouse) mapping to X C3.

SOURCE

AFX1 (C-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-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-5224 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-5224 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

AFX1 (C-16) 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).

AFX1 (C-16) is also recommended for detection of AFX1 in additional species, including equine, canine and porcine.

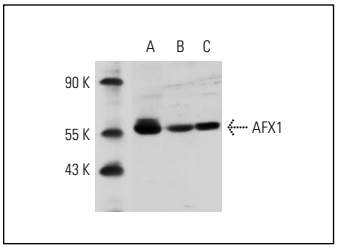
Suitable for use as control antibody for AFX1 siRNA (h): sc-29650, AFX1 siRNA (m): sc-29651, AFX1 shRNA Plasmid (h): sc-29650-SH, AFX1 shRNA Plasmid (m): sc-29651-SH, AFX1 shRNA (h) Lentiviral Particles: sc-29650-V and AFX1 shRNA (m) Lentiviral Particles: sc-29651-V.

AFX1 (C-16) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of AFX1 isoforms: 54/48 kDa.

Positive Controls: MM-142 cell lysate: sc-2246, c4 whole cell lysate: sc-364186 or LADMAC whole cell lysate: sc-364189 .

DATA



AFX1 (C-16): sc-5224. Western blot analysis of AFX1 expression in MM-142 (**A**), LADMAC (**B**) and c4 (**C**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Yang, Z., et al. 2002. An mRNA splice variant of the AFX gene with altered transcriptional activity. J. Biol. Chem. 277: 8068.
2. Imae, M., et al. 2003. Nutritional and hormonal factors control the gene expression of FoxOs, the mammalian homologues of DAF-16. J. Mol. Endocrinol. 30: 253-262.
3. Kim, M.J., et al. 2009. SIRT1 regulates tyrosine hydroxylase expression and differentiation of neuroblastoma cells via FOXO3α. FEBS Lett. 583: 1183-1188.