SANTA CRUZ BIOTECHNOLOGY, INC.

AFX1 (N-16): sc-34902

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 AFX1, 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.

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.
5. Anderson, M.J., et al. 1998. Cloning and characterization of three human forkhead genes that comprise an FKHR-like gene subfamily. Genomics 47: 187-199.
6. Kops, G.J., et al. 1999. Direct control of the Forkhead transcription factor AFX by protein kinase B. Nature 398: 630-634.
7. Brunet, A., et al. 1999. Akt promotes cell survival by phosphorylating and inhibiting a Forkhead transcription factor. Cell 96: 857-868.

CHROMOSOMAL LOCATION

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

SOURCE

AFX1 (N-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near 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.

Blocking peptide available for competition studies, sc-34902 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-34902 X, 200 µg/0.1 ml.

APPLICATIONS

AFX1 (N-16) is recommended for detection of AFX1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 (N-16) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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.

PROTOCOLS

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