

AF-4 (V-14): sc-49350

BACKGROUND

Proto-oncogene AF-4 (or FEL) is a product of a chromosomal aberration of the human gene AFF1, which is associated with acute leukemias. The fusion of AF-4 on chromosome band 4q21.3 with the mixed lineage leukemia (MLL or HRX) gene on 11q23 results in a MLL-AF-4 chimeric transcription factor in which AF-4 contributes transcriptional effector properties and requires cell-specific accessory factors. MLL is involved in several chromosomal translocations associated with acute myeloid and lymphoid leukemia. The MLL-AF-4 fusion protein is expressed in all normal hematopoietic cells. The expression of MLL-AF-4 influences the production of protein cyclin-dependent kinase inhibitor (CDKN1B), suggesting that inhibition of MLL-AF-4 expression may be a powerful and highly specific treatment of chemotherapy-resistant leukemia.

REFERENCES

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3. Lovett, B.D., et al. 2001. Near-precise interchromosomal recombination and functional DNA topoisomerase II cleavage sites at MLL and AF-4 genomic breakpoints in treatment-related acute lymphoblastic leukemia with t(4;11) translocation. *Proc. Natl. Acad. Sci. USA* 98: 9802-9807.
4. Imamura, T., et al. 2002. A novel infant acute lymphoblastic leukemia cell line with MLL-AF5q31 fusion transcript. *Leukemia* 16: 2302-2308.
5. Feldhahn, N., et al. 2005. Deficiency of Bruton's tyrosine kinase in B cell precursor leukemia cells. *Proc. Natl. Acad. Sci. USA* 102: 13266-13271.
6. Xia, Z.B., et al. 2005. The MLL fusion gene, MLL-AF4, regulates cyclin-dependent kinase inhibitor CDKN1B (p27kip1) expression. *Proc. Natl. Acad. Sci. USA* 102: 14028-14033.
7. Murmann, A.E., et al. 2005. Local gene density predicts the spatial position of genetic loci in the interphase nucleus. *Exp. Cell Res.* 311: 14-26.
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CHROMOSOMAL LOCATION

Genetic locus: AFF1 (human) mapping to 4q21.3; Aff1 (mouse) mapping to 5 E5.

SOURCE

AF-4 (V-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of AF-4 of human origin.

RESEARCH USE

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

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-49350 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

AF-4 (V-14) is recommended for detection of AF-4 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).

AF-4 (V-14) is also recommended for detection of AF-4 in additional species, including canine and porcine.

Suitable for use as control antibody for AF-4 siRNA (h): sc-60131, AF-4 siRNA (m): sc-60132, AF-4 shRNA Plasmid (h): sc-60131-SH, AF-4 shRNA Plasmid (m): sc-60132-SH, AF-4 shRNA (h) Lentiviral Particles: sc-60131-V and AF-4 shRNA (m) Lentiviral Particles: sc-60132-V.

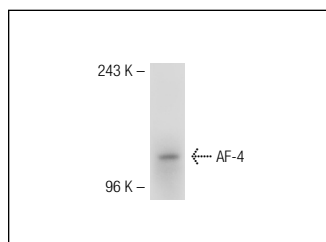
Molecular Weight of AF-4: 131 kDa.

Positive Controls: SK-N-SH cell lysate: sc-2410.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



AF-4 (V-14): sc-49350. Western blot analysis of AF-4 expression in SK-N-SH 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.