

AFF4 (G-1): sc-390310

BACKGROUND

AFF4 (AF4/FMR2 family, member 4), also known as MCEF or AF5Q31, localizes to the nucleus and is a member of the AF4 family of transcription factors. Ubiquitously expressed with highest expression in placenta, heart, pancreas and skeletal muscle, AFF4 is a 1,163 amino acid component of the positive transcription elongation factor b (P-TEFb) complex that contains Cdk9 (cyclin-dependent kinase 9) and cyclin T1. AFF4 is thought to function as a transcription factor that positively regulates transcription during fetal development, as well as in adult tissue. Defects in the gene encoding AFF4 lead to expression of an MLL-AFF4 (myeloid/lymphoid or mixed-lineage leukemia-AFF4) fusion protein that is found in acute lymphoblastic leukemia (ALL), implicating AFF4 in the pathogenesis of ALL. Three isoforms of AFF4 are expressed due to alternative splicing events.

REFERENCES

1. Taki, T., et al. 1999. AF5q31, a newly identified AF4-related gene, is fused to MLL in infant acute lymphoblastic leukemia with ins(5;11)(q31;q13q23). *Proc. Natl. Acad. Sci. USA* 96: 14535-14540.
2. Estable, M.C., et al. 2002. MCEF, the newest member of the AF4 family of transcription factors involved in leukemia, is a positive transcription elongation factor-b-associated protein. *J. Biomed. Sci.* 9: 234-245.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 604417. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Urano, A., et al. 2005. Infertility with defective spermiogenesis in mice lacking AF5q31, the target of chromosomal translocation in human infant leukemia. *Mol. Cell. Biol.* 25: 6834-6845.
5. Niedzielski, M.F., et al. 2007. MCEF is localized to the nucleus by protein sequences encoded within three distinct exons, where it represses HIV-1 Tat-transactivation of LTR-directed transcription. *Int. J. Biol. Sci.* 3: 225-236.

CHROMOSOMAL LOCATION

Genetic locus: AFF4 (human) mapping to 5q31.1.

SOURCE

AFF4 (G-1) is a mouse monoclonal antibody raised against amino acids 65-253 mapping near the N-terminus of AFF4 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ 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-390310 X, 200 µg/0.1 ml.

AFF4 (G-1) is available conjugated to agarose (sc-390310 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390310 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390310 PE), fluorescein (sc-390310 FITC), Alexa Fluor® 488 (sc-390310 AF488), Alexa Fluor® 546 (sc-390310 AF546), Alexa Fluor® 594 (sc-390310 AF594) or Alexa Fluor® 647 (sc-390310 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390310 AF680) or Alexa Fluor® 790 (sc-390310 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

AFF4 (G-1) is recommended for detection of AFF4 of 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

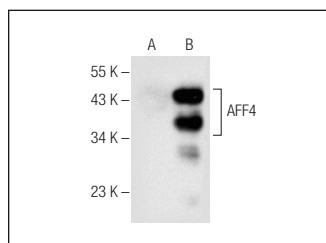
Suitable for use as control antibody for AFF4 siRNA (h): sc-91842, AFF4 shRNA Plasmid (h): sc-91842-SH and AFF4 shRNA (h) Lentiviral Particles: sc-91842-V.

AFF4 (G-1) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of AFF4: 127 kDa.

Positive Controls: AFF4 (h): 293T Lysate: sc-114129.

DATA



AFF4 (G-1): sc-390310. Western blot analysis of AFF4 expression in non-transfected: sc-117752 (A) and human AFF4 transfected: sc-114129 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Dahl, N.A., et al. 2020. Super elongation complex as a targetable dependency in diffuse midline glioma. *Cell Rep.* 31: 107485.
2. Guo, C., et al. 2020. ENL initiates multivalent phase separation of the super elongation complex (SEC) in controlling rapid transcriptional activation. *Sci. Adv.* 6: eaay4858.
3. Li, S., et al. 2021. Identification of the transcription factor, AFF4, as a new target of miR-203 in CNS. *Int. J. Biol. Macromol.* 181: 919-927.
4. Song, L., et al. 2022. Hotspot mutations in the structured ENL YEATS domain link aberrant transcriptional condensates and cancer. *Mol. Cell* 82: 4080-4098.e12.

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.

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