SANTA CRUZ BIOTECHNOLOGY, INC.

AOF1 (E-3): sc-515564

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

AOF1 (amine-oxidase flavin-containing domain 1), whose alternative names include KDM1B (lysine (K)-specific demethylase 1B) or LSD2 (lysine-specific histone demethylase 2), is an 823 amino acid nuclear protein belonging to the flavin monoamine oxidase family. As a histone demethylase, AOF1 specifically demethylates Lys4 of histone H3, a marker for epigenetic transcriptional activation, by interacting with a long stretch of the H3 N-terminal tail of mono- and dimethylated Lys4. Existing as three alternatively spliced isoforms, AOF1 is required for *de novo* DNA methylation of some imprinted genes in oocytes and contains a single SWIRM domain that is implicated in chromatin regulation. AOF1 contains one CW-type zinc finger and is encoded by a gene located on human chromosome 6p22.3.

REFERENCES

1. Shi, Y., et al. 2004. Histone demethylation mediated by the nuclear amine oxidase homolog LSD1. Cell 119: 941-953.
2. Culhane, J.C. and Cole, P.A. 2007. LSD1 and the chemistry of histone demethylation. Curr. Opin. Chem. Biol. 11: 561-568.
3. Forneris, F., et al. 2009. New roles of flavoproteins in molecular cell biology: histone demethylase LSD1 and chromatin. FEBS J. 276: 4304-4312.
4. Karytinos, A., et al. 2009. A novel mammalian flavin-dependent histone demethylase. J. Biol. Chem. 284: 17775-17782.
5. Ciccone, D.N., et al. 2009. KDM1B is a histone H3K4 demethylase required to establish maternal genomic imprints. Nature 461: 415-418.
6. Online Mendelian Inheritance in Man, OMIM™. 2009. Johns Hopkins University, Baltimore, MD. MIM Number: 613081. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: KDM1B (human) mapping to 6p22.3; Kdm1b (mouse) mapping to 13 A5.

SOURCE

AOF1 (E-3) is a mouse monoclonal antibody raised against amino acids 39-253 mapping near the N-terminus of AOF1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

PROTOCOLS

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

APPLICATIONS

AOF1 (E-3) is recommended for detection of AOF1 of mouse, rat and 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 AOF1 siRNA (h): sc-95467, AOF1 siRNA (m): sc-105073, AOF1 shRNA Plasmid (h): sc-95467-SH, AOF1 shRNA Plasmid (m): sc-105073-SH, AOF1 shRNA (h) Lentiviral Particles: sc-95467-V and AOF1 shRNA (m) Lentiviral Particles: sc-105073-V.

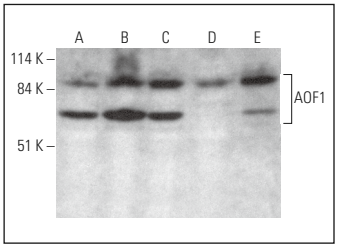
Molecular Weight of AOF1 isoforms: 92/66/19 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, K-562 nuclear extract: sc-2130 or Jurkat nuclear extract: sc-2132

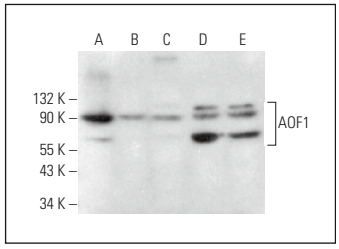
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



AOF1 (E-3): sc-515564. Western blot analysis of AOF1 expression in HeLa (**A**), K-562 (**B**), Jurkat (**C**), NIH/3T3 (**D**) and IMR-32 (**E**) nuclear extracts.



AOF1 (E-3): sc-515564. Western blot analysis of AOF1 expression in IMR-32 (**A**) and WEHI-231 (**B**) nuclear extracts and Neuro-2A (**C**), Hep G2 (**D**) and MEG-01 (**E**) whole cell lysates.

RESEARCH USE

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