

LSD1 (2D6): sc-136174

BACKGROUND

Histone methylation regulates chromatin structure and transcription and maintains an epigenetic state of the cell. Histone methylation is dynamically regulated by histone methylases and demethylases. Lysine-specific histone demethylase 1 (LSD1), also designated BHC110, is a flavin-dependent amine oxidase which catalyzes the removal of one or two methyl groups from the methyl-lysine-4 side chain of Histone H3. The LSD1 protein contains a SWIRM domain, a FAD-binding motif and an amine oxidase domain. Association with CoREST, a SANT domain-containing corepressor, positively regulates LSD1. CoREST mediates the demethylation ability of LSD1 and protects it from proteasomal degradation *in vivo*. BCH80, a PHD domain-containing protein, inhibits activity of LSD1/CoREST mediated demethylation. The LSD1 protein also co-localizes with the androgen receptor in human prostate tumor cells and in unaffected prostate cells, stimulating androgen-receptor-dependent transcription.

REFERENCES

1. Shi, Y., et al. 2004. Histone demethylation mediated by the nuclear amine oxidase homolog LSD1. *Cell* 119: 941-953.
2. Forneris, F., et al. 2005. Histone demethylation catalysed by LSD1 is a flavin-dependent oxidative process. *FEBS Lett.* 579: 2203-2207.
3. Lee, M.G., et al. 2005. An essential role for CoREST in nucleosomal Histone 3 Lysine 4 demethylation. *Nature* 437: 432-435.
4. Metzger, E., et al. 2005. LSD1 demethylates repressive histone marks to promote androgen-receptor-dependent transcription. *Nature* 437: 436-439.
5. Shi, Y.J., et al. 2005. Regulation of LSD1 histone demethylase activity by its associated factors. *Mol. Cell* 19: 857-864.
6. Trewick, S.C., et al. 2005. Methylation: lost in hydroxylation? *EMBO Rep.* 6: 315-320.
7. Wysocka, J., et al. 2005. Taking LSD 1 to a new high. *Cell* 122: 654-658.

CHROMOSOMAL LOCATION

Genetic locus: KDM1A (human) mapping to 1p36.12; Kdm1a (mouse) mapping to 4 D3.

SOURCE

LSD1 (2D6) is a mouse monoclonal antibody raised against a GST-fusion protein corresponding to amino acids 289-538 of LSD1 of human origin.

PRODUCT

Each vial contains 200 µg IgG 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.

APPLICATIONS

LSD1 (2D6) is recommended for detection of LSD1 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for LSD1 siRNA (h): sc-60970, LSD1 siRNA (m): sc-60971, LSD1 siRNA (r): sc-156072, LSD1 shRNA Plasmid (h): sc-60970-SH, LSD1 shRNA Plasmid (m): sc-60971-SH, LSD1 shRNA Plasmid (r): sc-156072-SH, LSD1 shRNA (h) Lentiviral Particles: sc-60970-V, LSD1 shRNA (m) Lentiviral Particles: sc-60971-V and LSD1 shRNA (r) Lentiviral Particles: sc-156072-V.

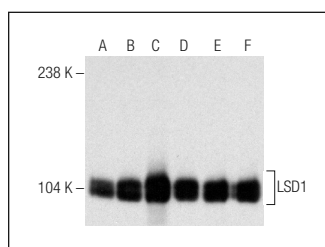
Molecular Weight of LSD1: 107 kDa.

Positive Controls: PC-3 nuclear extract: sc-2152, Jurkat nuclear extract: sc-2132 or HeLa nuclear extract: sc-2120.

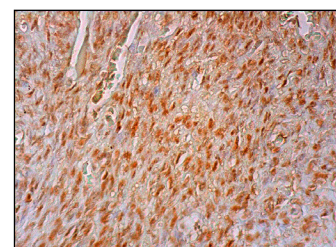
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



LSD1 (2D6): sc-136174. Western blot analysis of LSD1 expression in HeLa (A), PC-3 (B), Jurkat (C), SK-BR-3 (D), SW480 (E) and MCF7 (F) nuclear extracts.



LSD1 (2D6): sc-136174. Immunoperoxidase staining of formalin fixed, paraffin-embedded human ovary tissue showing nuclear staining of ovarian stroma cells.

RESEARCH USE

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

PROTOCOLS

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