

LSD1 (1B2E5): sc-53875



The Power to Question

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 colocalizes with the androgen receptor in human prostate tumor cells and in unaffected prostate cells, stimulating androgen-receptor-dependent transcription.

REFERENCES

- Shi, Y., et al. 2004. Histone demethylation mediated by the nuclear amine oxidase homolog LSD1. *Cell* 119: 941-53.
- Forneris, F., et al. 2005. Histone demethylation catalysed by LSD1 is a flavin-dependent oxidative process. *FEBS Lett.* 579: 2203-2207.

CHROMOSOMAL LOCATION

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

SOURCE

LSD1 (1B2E5) is a mouse monoclonal antibody raised against purified truncated recombinant LSD1 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

LSD1 (1B2E5) 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)] and immunofluorescence (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.

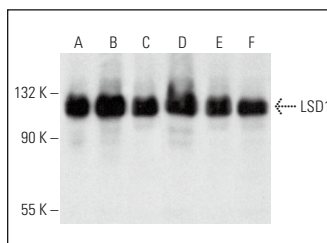
Molecular Weight of LSD1: 107 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, NIH/3T3 nuclear extract: sc-2138 or AT3B-1 whole cell lysate: sc-364372.

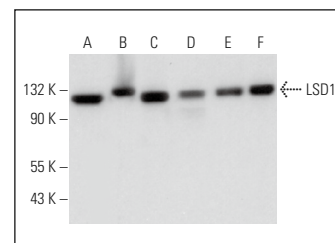
RECOMMENDED SUPPORT REAGENTS

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



LSD1 (1B2E5): sc-53875. Western blot analysis of LSD1 expression in NIH/3T3 (A), RAW 264.7 (B) and KNRK (C) nuclear extracts and Neuro-2A (D), ES-D3 (E) and C6 (F) whole cell lysates.



LSD1 (1B2E5): sc-53875. Western blot analysis of LSD1 expression in HeLa (A) and NIH/3T3 (B) nuclear extracts and NTERA-2 cl.D1 (C), BT-20 (D), Sol8 (E) and AT3B-1 (F) whole cell lysates.

SELECT PRODUCT CITATIONS

- Sheng, W., et al. 2018. LSD1 ablation stimulates anti-tumor immunity and enables checkpoint blockade. *Cell* 174: 549-563.e19.
- Hatzl, K., et al. 2019. Histone demethylase LSD1 is required for germinal center formation and BCL6-driven lymphomagenesis. *Nat. Immunol.* 20: 86-96.
- Malbeteau, L., et al. 2022. PRMT1, a key modulator of unliganded progesterone receptor signaling in breast cancer. *Int. J. Mol. Sci.* 23: 9509.
- Zhang, G., et al. 2023. CPT1A induction following epigenetic perturbation promotes MAVS palmitoylation and activation to potentiate antitumor immunity. *Mol. Cell* 83: 4370-4385.e9.
- Qiu, F., et al. 2024. Priming with LSD1 inhibitors promotes the persistence and antitumor effect of adoptively transferred T cells. *Nat. Commun.* 15: 4327.
- Ferrarese, R., et al. 2024. ZBTB18 regulates cytokine expression and affects microglia/macrophage recruitment and commitment in glioblastoma. *Commun. Biol.* 7: 1472.

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.