

**#2139** Store at -20°C

# LSD1 Antibody

100 µl  
 (10 western blots)



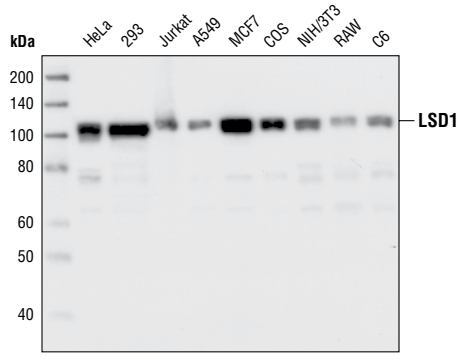
**Orders** ■ 877-616-CELL (2355)  
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This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W, IP, IHC-P, IF-IC, F Endogenous	H, M, R, Mk	110 kDa	Rabbit**

**Background:** Lysine-specific demethylase 1 (LSD1; also known as AOF2 and BHC110) is a nuclear homolog of amine oxidases and functions as a histone demethylase and transcription cofactor (1). Gene activation and repression is specifically regulated by the methylation state of distinct lysine residues in histone proteins. For example, methylation of histone H3 Lys4 facilitates transcriptional activation by coordinating the recruitment of BPTF, a component of the NURF chromatin remodeling complex, and WDR5, a component of multiple histone methyltransferase complexes (2,3). In contrast, methylation of histone H3 (Lys9) facilitates transcriptional repression by recruiting HP1 (4,5). LSD1 is a component of the CoREST transcriptional co-repressor complex, which contains CoREST, CtBP, HDAC1 and HDAC2. As part of this complex, LSD1 demethylates mono-methyl and di-methyl histone H3 Lys4 via an FAD-dependent oxidation reaction, and facilitates the repression of neuronal-specific genes in non-neuronal cells (1,6,7). In contrast, when LSD1 is associated with androgen-receptor in human prostate cells, it demethylates mono-methyl and di-methyl histone H3 Lys9 and facilitates androgen-receptor-dependent transcriptional activation (8). Therefore, LSD1 can function as a co-repressor or co-activator, depending on gene context. LSD1 activity is inhibited by the amine oxidase inhibitors pargyline, deprenyl, clorgyline and tranlycypromine (8).



Western blot analysis of cell lysates from various cell lines, using LSD1 Antibody.

**Specificity/Sensitivity:** LSD1 Antibody detects endogenous levels of total LSD1 protein.

**Source/Purification:** Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues near the amino-terminus of human LSD1 protein. Antibodies are purified by protein A and peptide affinity chromatography.

**Entrez-Gene ID** #23028  
**Swiss-Prot Acc.** #O60341 (H), #Q6ZQ88 (M)

**Storage:** Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

**\*Species cross-reactivity is determined by Western blot.**

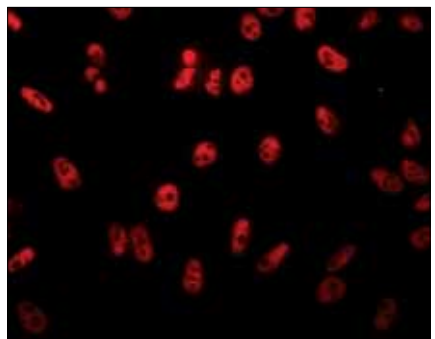
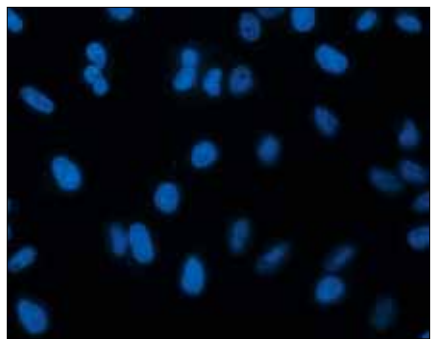
**\*\*Anti-rabbit secondary antibodies must be used to detect this antibody.**

**Recommended Antibody Dilutions:**

Western blotting	1:1000
Immunoprecipitation	1:50
Immunohistochemistry (Paraffin)	1:200†
Antibody diluent:	SignalStain® Antibody Diluent #8112
Detection reagent:	SignalStain® Boost (HRP, Rabbit) #8114
† Optimal IHC dilutions determined using SignalStain® Boost IHC Detection Reagent.	
Immunofluorescence (IF-IC)	1:400
Flow Cytometry	1:400

**For application specific protocols please see the web page for this product at [www.cellsignaling.com](http://www.cellsignaling.com).**

**Please visit [www.cellsignaling.com](http://www.cellsignaling.com) for a complete listing of recommended companion products.**

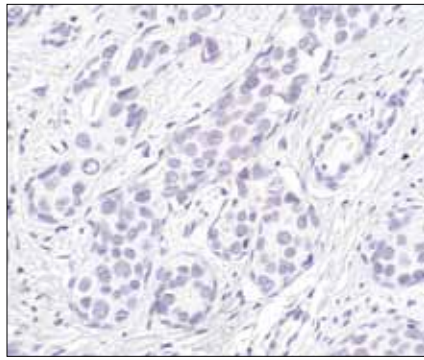
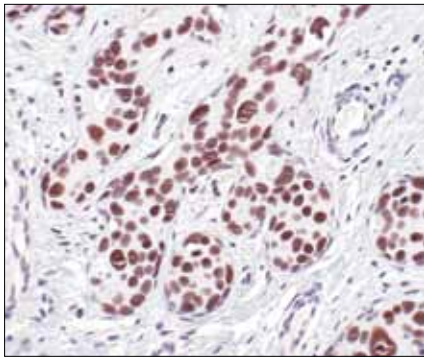


Immunofluorescent analysis of HeLa cells, using LSD1 Antibody (right). Nuclei are stained with DAPI (left).

**IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.**

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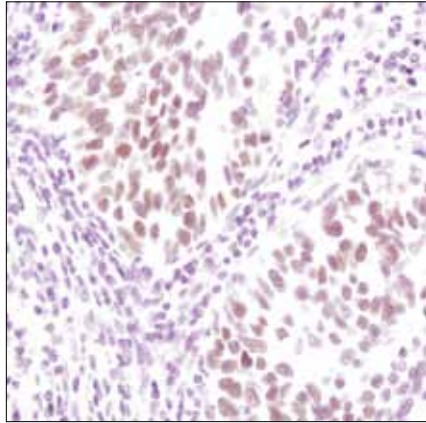
**Applications Key:** W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide  
**Species Cross-Reactivity Key:** H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine  
 Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.



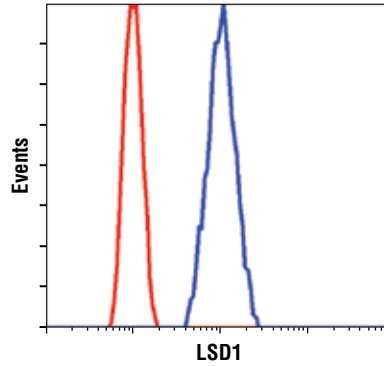
Immunohistochemical analysis of paraffin-embedded human breast carcinoma, using LSD1 Antibody preincubated with a control peptide (left) or antigen-specific peptide (right).

**Background References:**

- (1) Shi, Y. et al. (2004) *Cell* 119, 941–953.
- (2) Wysocka, J. et al. (2006) *Nature* 442, 86–90.
- (3) Wysocka, J. et al. (2005) *Cell* 121, 859–872.
- (4) Jacobs, S.A. and Khorasanizadeh, S. (2002) *Science* 295, 2080–2083.
- (5) Nielsen, P.R. et al. (2002) *Nature* 416, 103–107.
- (6) Shi, Y.J. et al. (2005) *Mol. Cell* 19, 857–864.
- (7) Lee, M.G. et al. (2005) *Nature* 437, 432–435.
- (8) Metzger, E. et al. (2005) *Nature* 437, 436–439.



Immunohistochemical analysis of paraffin-embedded human lung carcinoma, showing nuclear localization, using LSD1 Antibody.



Flow cytometric analysis of untreated HeLa cells, using LSD1 Antibody (blue) compared to a nonspecific negative control antibody (red).