

# Lsh (H-4): sc-46665

## BACKGROUND

The SNF2 family of helicases are thought to act as transcriptional regulators by their ability to alter the structure of chromatin. One such member, lymphoid-specific helicase (Lsh, also designated Hells for lymphoid-specific DNA helicase), is highly expressed in lymphoid precursor cells in adult animals and is required for the proliferation of peripheral T lymphocytes. Lsh is also expressed in fetal liver and more abundantly in fetal thymus. Lsh protein shows substantial homology to other members of the SNF2 family that are involved in chromatin remodeling and transcription, however does not show similarity to members involved in DNA repair or recombination. The similarity of Lsh to another SNF2 homolog, Mi-2, which functions as a transcriptional silencer in chromatin remodeling, suggests that Lsh may participate in chromatin repression to regulate transcription, rather than chromatin "opening".

## CHROMOSOMAL LOCATION

Genetic locus: HELLS (human) mapping to 10q23.33; Hells (mouse) mapping to 19 C3.

## SOURCE

Lsh (H-4) is a mouse monoclonal antibody raised against amino acids 1-240 mapping at the N-terminus of Lsh of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Lsh (H-4) is available conjugated to agarose (sc-46665 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-46665 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-46665 PE), fluorescein (sc-46665 FITC), Alexa Fluor® 488 (sc-46665 AF488), Alexa Fluor® 546 (sc-46665 AF546), Alexa Fluor® 594 (sc-46665 AF594) or Alexa Fluor® 647 (sc-46665 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-46665 AF680) or Alexa Fluor® 790 (sc-46665 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

Lsh (H-4) is recommended for detection of Lsh of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:5000), 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), immunohistochemistry (including paraffin-embedded sections) (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 Lsh siRNA (h): sc-38033, Lsh siRNA (m): sc-38034, Lsh shRNA Plasmid (h): sc-38033-SH, Lsh shRNA Plasmid (m): sc-38034-SH, Lsh shRNA (h) Lentiviral Particles: sc-38033-V and Lsh shRNA (m) Lentiviral Particles: sc-38034-V.

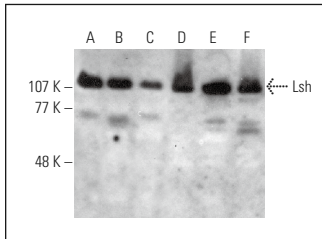
Molecular Weight of Lsh: 100 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, BW5147 cell lysate: sc-3800 or JM1 whole cell lysate: sc-364233.

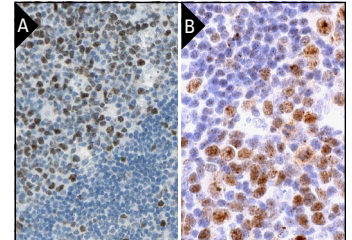
## STORAGE

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

## DATA



Lsh (H-4) HRP: sc-46665 HRP. Direct western blot analysis of Lsh expression in Jurkat (A), HeLa (B), A549 (C), NIH/3T3 (D), JM1 (E) and BW5147 (F) whole cell lysates.



Lsh (H-4): sc-46665. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lymph node tissue showing nuclear staining of follicle cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human tonsil tissue showing nuclear staining of subset of cells in germinal center (B).

## SELECT PRODUCT CITATIONS

- Myant, K., et al. 2008. Lsh cooperates with DNA methyltransferases to repress transcription. *Mol. Cell. Biol.* 28: 215-226.
- Myant, K., et al. 2010. Lsh and G9a/GLP complex are required for developmentally programmed DNA methylation. *Genome Res.* 21: 83-94.
- Burrage, J., et al. 2012. The SNF2 family ATPase Lsh promotes phosphorylation of H2AX and efficient repair of DNA double-strand breaks in mammalian cells. *J. Cell Sci.* 125: 5524-5534.
- Termanis, A., et al. 2016. The SNF2 family ATPase Lsh promotes cell-autonomous *de novo* DNA methylation in somatic cells. *Nucleic Acids Res.* 44: 7592-7604.
- Jung, H.J., et al. 2017. The ubiquitin-like with PHD and ring finger domains 1 (UHRF1)/DNA methyltransferase 1 (DNMT1) axis is a primary regulator of cell senescence. *J. Biol. Chem.* 292: 3729-3739.
- Mao, C., et al. 2018. A G3BP1-interacting lncRNA promotes ferroptosis and apoptosis in cancer via nuclear sequestration of p53. *Cancer Res.* 78: 3484-3496.
- Mao, C., et al. 2018. Aryl hydrocarbon receptor activated by benzo (a) pyrene promotes SMARCA6 expression in NSCLC. *Am. J. Cancer Res.* 8: 1214-1227.
- Wang, M., et al. 2019. Long noncoding RNA LINC00336 inhibits ferroptosis in lung cancer by functioning as a competing endogenous RNA. *Cell Death Differ.* 26: 2329-2343.
- Chen, L., et al. 2019. DNA methylation modifier Lsh inhibits p53 ubiquitination and transactivates p53 to promote lipid metabolism. *Epigenetics Chromatin* 12: 59.

## RESEARCH USE

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