SANTA CRUZ BIOTECHNOLOGY, INC.

MLL (H-10): sc-374392

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Eukaryotic RNA polymerase II mediates the synthesis of mature and functional messenger RNA. This is a multistep process, called the transcription cycle, that includes five stages: preinitiation, promoter, clearance, elongation and termination. Elongation is thought to be a critical stage for the regulation of gene expression. ELL (11-19 lysine-rich leukemia protein, also designated MEN) functions as an RNA polymerase II elongation factor that increases the rate of transcription by suppressing transient pausing by RNA polymerase II. Also, ELL is thought to regulate cellular proliferation. ELL is abundantly expressed in peripheral blood leukocytes, skeletal muscle, placenta and testis, and has lower expression in spleen, thymus, heart, brain, lung, kidney, liver and ovary. The gene encoding human ELL, which maps to chromosome 19p13.1, is one of several genes which undergo translocation with the MLL gene on chromosome 11q23.3 in acute myeloid leukemia. MLL (myeloid/lymphoid leukemia, also designated ALL-1 and HRX) regulates embryonal and hematopoietic development.

CHROMOSOMAL LOCATION

Genetic locus: KMT2A (human) mapping to 11q23.3; Kmt2a (mouse) mapping to 9 A5.2.

SOURCE

MLL (H-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 3351-3389 near the C-terminus of MLL of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MLL (H-10) is available conjugated to agarose (sc-374392 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374392 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374392 PE), fluorescein (sc-374392 FITC), Alexa Fluor® 488 (sc-374392 AF488), Alexa Fluor® 546 (sc-374392 AF546), Alexa Fluor® 594 (sc-374392 AF594) or Alexa Fluor® 647 (sc-374392 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374392 AF680) or Alexa Fluor® 790 (sc-374392 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-374392 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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

MLL (H-10) is recommended for detection of MLL 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), 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).

MLL (H-10) is also recommended for detection of MLL in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for MLL siRNA (h): sc-38039, MLL siRNA (m): sc-38040, MLL shRNA Plasmid (h): sc-38039-SH, MLL shRNA Plasmid (m): sc-38040-SH, MLL shRNA (h) Lentiviral Particles: sc-38039-V and MLL shRNA (m) Lentiviral Particles: sc-38040-V.

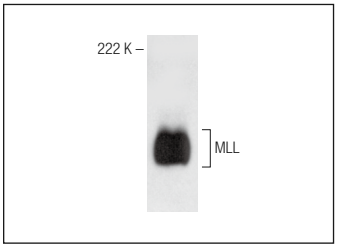
Molecular Weight of MLL: 430 kDa.

Molecular Weight of MLL N-terminal cleavage: 320 kDa.

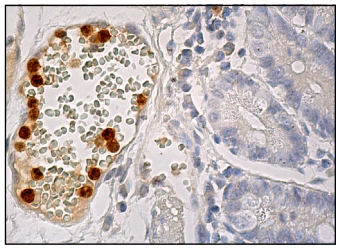
Molecular Weight of MLL C-terminal cleavage: 180 kDa.

Positive Controls: Jurkat nuclear extract: sc-2132.

DATA



MLL (H-10): sc-374392. Western blot analysis of MLL expression in Jurkat nuclear extract.



MLL (H-10): sc-374392. Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine tissue showing nuclear and cytoplasmic staining of leukocytes.

SELECT PRODUCT CITATIONS

1. Wu, S., et al. 2016. Novel variants in MLL confer to bladder cancer recurrence identified by whole-exome sequencing. Oncotarget 7: 2629-2645.
2. Shi, D., et al. 2022. Histone methyltransferase MLL1 mediates oxidative stress and apoptosis upon deoxynivalenol exposure in the intestinal porcine epithelial cells. Antioxidants 11: 2006.
3. Kirtana, R., et al. 2023. KDM5A noncanonically binds antagonists MLL1/2 to mediate gene regulation and promotes epithelial to mesenchymal transition. Biochim. Biophys. Acta Gene Regul. Mech. 1866: 194986.
4. Janssens, D.H., et al. 2024. KMT2A oncoproteins induce epigenetic resistance to targeted therapies. bioRxiv. E-published.

RESEARCH USE

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