

MLL (D-3): sc-377274

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.

REFERENCES

1. Thirman, M.J., et al. 1994. Cloning of ELL, a gene that fuses to MLL in a t(11;19)(q23;p13.1) in acute myeloid leukemia. *Proc. Natl. Acad. Sci. USA* 91: 12110-12114.
2. Shilatifard, A., et al. 1997. Structure and function of RNA polymerase II elongation factor ELL. Identification of two overlapping ELL functional domains that govern its interaction with polymerase and the ternary elongation complex. *J. Biol. Chem.* 272: 22355-22363.
3. Ennas, M.G., et al. 1997. The human ALL-1/MLL/HRX antigen is predominantly localized in the nucleus of resting and proliferating peripheral blood mononuclear cells. *Cancer Res.* 57: 2035-2041.

CHROMOSOMAL LOCATION

Genetic locus: KMT2A (human) mapping to 11q23.3.

SOURCE

MLL (D-3) is a mouse monoclonal antibody raised against amino acids 3301-3600 mapping within an internal region 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 (D-3) is available conjugated to agarose (sc-377274 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377274 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377274 PE), fluorescein (sc-377274 FITC), Alexa Fluor[®] 488 (sc-377274 AF488), Alexa Fluor[®] 546 (sc-377274 AF546), Alexa Fluor[®] 594 (sc-377274 AF594) or Alexa Fluor[®] 647 (sc-377274 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-377274 AF680) or Alexa Fluor[®] 790 (sc-377274 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

MLL (D-3) is recommended for detection of MLL of 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

Molecular Weight of MLL: 430 kDa.

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

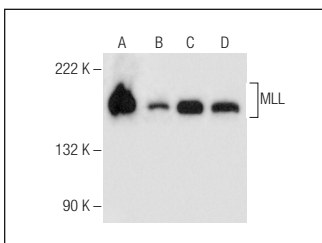
Molecular Weight of MLL C-terminal cleavage product: 180 kDa.

Positive Controls: Ramos nuclear extract: sc-2153, Jurkat nuclear extract: sc-2132 or MOLT-4 nuclear extract: sc-2151.

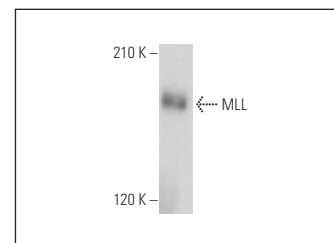
RECOMMENDED SUPPORT REAGENTS

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



MLL (D-3): sc-377274. Western blot analysis of MLL expression in CCRF-CEM (A), Jurkat (B), MOLT-4 (C) and Ramos (D) nuclear extracts.



MLL (D-3): sc-377274. Western blot analysis of MLL expression in MDA-MB-231 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Su, P.H., et al. 2019. Paired box-1 (PAX1) activates multiple phosphatases and inhibits kinase cascades in cervical cancer. *Sci. Rep.* 9: 9195.
2. Jang, M., et al. 2021. Matrix stiffness epigenetically regulates the oncogenic activation of the Yes-associated protein in gastric cancer. *Nat. Biomed. Eng.* 5: 114-123.

STORAGE

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

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