

MLF1 (A-8): sc-514304

BACKGROUND

Myeloid leukemia factor 1 (MLF1) is a 268 amino acid protein expressed by a gene that is involved in translocations associated with acute myeloid leukemia. MLF1 is a widely expressed negative regulator of cell cycle progression functioning upstream of the tumor suppressor p53. MLF1 induces p53-dependent cell cycle arrest in murine embryonic fibroblasts. MLF1 expression also inversely affects the endogenous level of COP1, a ubiquitin ligase for p53, inhibits Epo-induced cell cycle exit, and inhibits a rise in the cell cycle inhibitor p27. Polo-like kinase 1 (Plk1) phosphorylates MLF1 at its Thr78 site, which induces ubiquitination and degradation of MLF1 before the transition from metaphase to anaphase. Mutations of these phosphorylation sites stabilize MLF1 and inhibit mitotic progression. MLF1 normally functions in multi-potent progenitor cells, and its dysregulation may be somewhat responsible for leukemogenesis.

REFERENCES

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- Kazemi-Esfarjani, P. and Benzer, S. 2002. Suppression of polyglutamine toxicity by a *Drosophila* homolog of myeloid leukemia factor 1. *Hum. Mol. Genet.* 11: 2657-2672.
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- Sun, W., et al. 2004. Identification of differentially expressed genes in human lung squamous cell carcinoma using suppression subtractive hybridization. *Cancer Lett.* 212: 83-93.
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- Yoneda-Kato, N., et al. 2005. Myeloid leukemia factor 1 regulates p53 subunit 3. *EMBO J.* 24: 1739-1749.

CHROMOSOMAL LOCATION

Genetic locus: MLF1 (human) mapping to 3q25.32.

SOURCE

MLF1 (A-8) is a mouse monoclonal antibody raised against amino acids 1-135 mapping at the N-terminus of MLF1 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

MLF1 (A-8) is recommended for detection of MLF1 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 MLF1 siRNA (h): sc-61055, MLF1 shRNA Plasmid (h): sc-61055-SH and MLF1 shRNA (h) Lentiviral Particles: sc-61055-V.

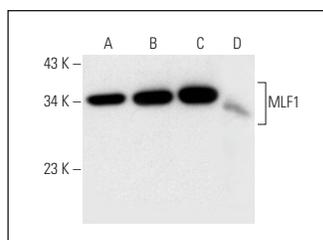
Molecular Weight of MLF1: 31 kDa.

Positive Controls: NTERA-2 cl.D1 whole cell lysate: sc-364181, ES-2 cell lysate: sc-24674 or HeLa whole cell lysate: sc-2200.

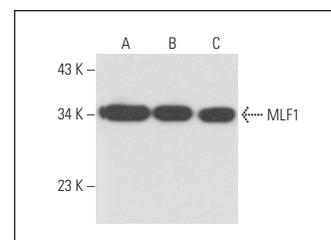
RECOMMENDED SUPPORT REAGENTS

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



MLF1 (A-8): sc-514304. Western blot analysis of MLF1 expression in NTERA-2 cl.D1 (A), ES-2 (B) and HeLa (C) whole cell lysates and human hippocampus tissue extract (D).



MLF1 (A-8): sc-514304. Western blot analysis of MLF1 expression in NTERA-2 cl.D1 (A), A-673 (B) and SJRH30 (C) whole cell lysates.

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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.