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Mcl-1 (h): 293T Lysate: sc-176626

BACKGROUND

B cell CLL/lymphoma-2 (Bcl-2) blocks cell death following a variety of stimuli and confers a death-sparing effect to certain hematopoietic cell lines following growth factor withdrawal. Myeloid cell leukemia-1 (Mcl-1) shares sequence homology with Bcl-2 and further resembles Bcl-2 in that its expression promotes cell viability. p53 and Mcl-1 demonstrate opposing effects on mitochondrial apoptosis by mediating Bcl-2 antagonist killer (Bak) activity. Mcl-1 is an important and specific regulator that is necessary for the homeostasis of early hematopoietic progenitors. Glycogen synthase kinase-3 (GSK-3) controls Mcl-1 stability, which has an effect on the regulation of apoptosis by growth factors PI 3-kinase and Akt. Mice with a deficiency of the Mcl-1 protein show a significant reduction in B and T lymphocytes similar to the effects observed in IL-7- or IL-7R-deficient mice.

REFERENCES

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2. Craig, R.W., et al. 1994. Human and mouse chromosomal mapping of the myeloid cell leukemia-1 gene: Mcl-1 maps to human chromosome 1q21, a region that is frequently altered in preneoplastic and neoplastic disease. *Genomics* 23: 457-463.
3. Rinkenberger, J.L., et al. 2000. Mcl-1 deficiency results in peri-implantation embryonic lethality. *Genes Dev.* 14: 23-27.
4. Bae, J., et al. 2000. Mcl-1S, a splicing variant of the anti-apoptotic Bcl-2 family member Mcl-1, encodes a pro-apoptotic protein possessing only the BH3 domain. *J. Biol. Chem.* 275: 25255-25261.
5. Opferman, J.T., et al. 2003. Development and maintenance of B and T lymphocytes requires anti-apoptotic Mcl-1. *Nature* 426: 671-676.
6. Leu, J.I., et al. 2004. Mitochondrial p53 activates Bak and causes disruption of a Bak-Mcl-1 complex. *Nat. Cell Biol.* 6: 443-450.
7. Opferman, J.T., et al. 2005. Obligate role of anti-apoptotic Mcl-1 in the survival of hematopoietic stem cells. *Science* 307: 1101-1104.
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CHROMOSOMAL LOCATION

Genetic locus: MCL1 (human) mapping to 1q21.3.

PRODUCT

Mcl-1 (h): 293T Lysate represents a lysate of human Mcl-1 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

APPLICATIONS

Mcl-1 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive Mcl-1 antibodies. Recommended use: 10-20 µl per lane.

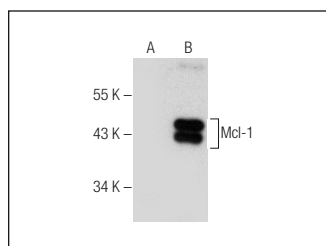
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

Mcl-1 (C-2): sc-377487 is recommended as a positive control antibody for Western Blot analysis of enhanced human Mcl-1 expression in Mcl-1 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

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.

DATA



Mcl-1 (C-2): sc-377487. Western blot analysis of Mcl-1 expression in non-transfected: sc-117752 (A) and human Mcl-1 transfected: sc-176626 (B) 293T whole cell lysates.

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.