SANTA CRUZ BIOTECHNOLOGY, INC.

Mcl-1 (RC13): sc-56152

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 (GSK3) 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.

CHROMOSOMAL LOCATION

Genetic locus: MCL1 (human) mapping to 1q21.3; Mcl1 (mouse) mapping to 3 F2.1.

SOURCE

Mcl-1 (RC13) is a mouse monoclonal antibody raised against amino acids 1-327 of Mcl-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Mcl-1 (RC13) is recommended for detection of Mcl-1 of human and, to a lesser extent, mouse and rat origin by Western Blotting (starting dilution 1:200, 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Mcl-1 siRNA (h): sc-35877, Mcl-1 siRNA (m): sc-35878, Mcl-1 shRNA Plasmid (h): sc-35877-SH, Mcl-1 shRNA Plasmid (m): sc-35878-SH, Mcl-1 shRNA (h) Lentiviral Particles: sc-35877-V and Mcl-1 shRNA (m) Lentiviral Particles: sc-35878-V.

Molecular Weight of Mcl-1 long form: 40 kDa.

Molecular Weight of Mcl-1 short form: 32 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, BJAB whole cell lysate: sc-2207 or Ramos cell lysate: sc-2216.

STORAGE

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

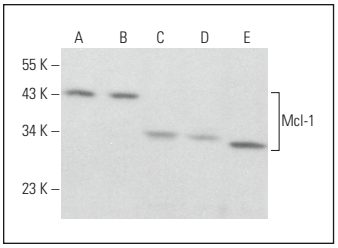
PROTOCOLS

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

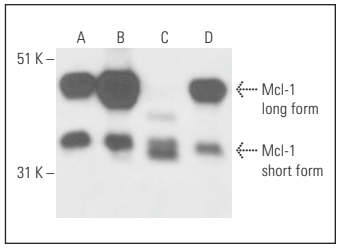
RESEARCH USE

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

DATA



Mcl-1 (RC13): sc-56152. Western blot analysis of Mcl-1 expression in Ramos (**A**), Raji (**B**), WEHI-231 (**C**), RAW 264.7 (**D**) and PC-12 (**E**) whole cell lysates.



Mcl-1 (RC13): sc-56152. Western blot analysis of Mcl-1 expression in BJAB (**A**), Ramos (**B**), JAR (**C**) and K-562 (**D**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. High, L.M., et al. 2010. The Bcl-2 homology domain 3 mimetic ABT-737 targets the apoptotic machinery in acute lymphoblastic leukemia resulting in synergistic *in vitro* and *in vivo* interactions with established drugs. Mol. Pharmacol. 77: 483-494.
2. Rubinstein, A.D., et al. 2011. The autophagy protein Atg12 associates with antiapoptotic Bcl-2 family members to promote mitochondrial apoptosis. Mol. Cell 44: 698-709.
3. Wang, W., et al. 2014. Expressions of farnesoid X receptor and myeloid cell leukemia sequence 1 protein are associated with poor prognosis in patients with gallbladder cancer. Chin. Med. J. 127: 2637-2642.
4. Schmidt, L.H., et al. 2014. Prognostic impact of Bcl-2 depends on tumor histology and expression of MALAT-1 lncRNA in non-small-cell lung cancer. J. Thorac. Oncol. 9: 1294-1304.
5. Yang, N., et al. 2015. Matrine suppresses proliferation and induces apoptosis in human cholangiocarcinoma cells through suppression of JAK2/STAT3 signaling. Pharmacol. Rep. 67: 388-393.
6. Karim, C.B., et al. 2015. Structural mechanism for regulation of Bcl-2 protein Noxa by phosphorylation. Sci. Rep. 5: 14557.
7. Yang, I.H., et al. 2018. Nitidine chloride represses Mcl-1 protein via lysosomal degradation in oral squamous cell carcinoma. J. Oral Pathol. Med. 47: 823-829.
8. Widden, H., et al. 2020. Mcl-1 binds and negatively regulates the transcriptional function of tumor suppressor p73. Cell Death Dis. 11: 946.
9. Lee, H., et al. 2024. Bcl-2 protein progressively declines during robust CLL clonal expansion: potential impact on venetoclax clinical efficacy and insights on mechanism. Lymphatics 2: 50-78.

CONJUGATES

See **Mcl-1 (22): sc-12756** for Mcl-1 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.