SANTA CRUZ BIOTECHNOLOGY, INC.

Mcl-1 (22): sc-12756

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.

SOURCE

Mcl-1 (22) is a mouse monoclonal antibody raised against full length 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.

Mcl-1 (22) is available conjugated to agarose (sc-12756 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-12756 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-12756 PE), fluorescein (sc-12756 FITC), Alexa Fluor® 488 (sc-12756 AF488), Alexa Fluor® 546 (sc-12756 AF546), Alexa Fluor® 594 (sc-12756 AF594) or Alexa Fluor® 647 (sc-12756 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-12756 AF680) or Alexa Fluor® 790 (sc-12756 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, Mcl-1 (22) is available conjugated to biotin (sc-12756 B), 200 µg/ml, for WB, IHC(P) and ELISA.

APPLICATIONS

Mcl-1 (22) is recommended for detection of Mcl-1 long and short forms of human 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

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

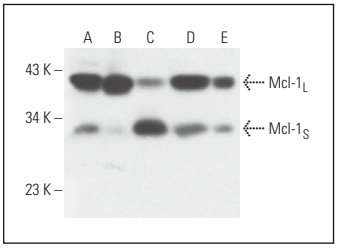
Molecular Weight of Mcl-1 short form: 32 kDa.

Positive Controls: BJAB whole cell lysate: sc-2207, Ramos cell lysate: sc-2216 or JAR cell lysate: sc-2276.

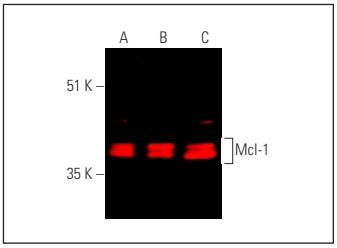
STORAGE

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

DATA



Mcl-1 (22): sc-12756. Western blot analysis of Mcl-1 expression in BJAB (**A**), Ramos (**B**), JAR (**C**), K-562 (**D**) and Jurkat (**E**) whole cell lysates.



Mcl-1 (22): sc-12756. Near-infrared western blot analysis of Mcl-1 expression in BJAB (**A**), Ramos (**B**) and K-562 (**C**) whole cell lysates. Detection reagent used: m-IgGκ BP-CFL 790: sc-516181.

SELECT PRODUCT CITATIONS

1. Lin, M.T., et al. 2001. IL-6 inhibits apoptosis and retains oxidative DNA lesions in human gastric cancer AGS cells through up-regulation of anti-apoptotic gene Mcl-1. Carcinogenesis 22: 1947-1953.
2. Milani, M., et al. 2017. DRP-1 is required for BH3 mimetic-mediated mitochondrial fragmentation and apoptosis. Cell Death Dis. 8: e2552.
3. Zhivkova, V., et al. 2018. Crucial role of reactive oxygen species (ROS) for the proapoptotic effects of indirubin derivative DKP-073 in melanoma cells. Mol. Carcinog. 58: 258-269.
4. Wu, Y.H., et al. 2019. Akt inhibitor SC66 promotes cell sensitivity to cisplatin in chemoresistant ovarian cancer cells through inhibition of COL11A1 expression. Cell Death Dis. 10: 322.
5. Chien, H.J., et al. 2020. α-mangostin attenuates stemness and enhances cisplatin-induced cell death in cervical cancer stem-like cells through induction of mitochondrial-mediated apoptosis. J. Cell. Physiol. 235: 5590-5601.
6. Jang, J.H., et al. 2021. Pioglitazone mediates apoptosis in Caki cells via downregulating c-$FLIP_{(L)}$ expression and reducing Bcl-2 protein stability. Oncol. Lett. 22: 743.
7. Delgado, M., et al. 2022. Primary acute lymphoblastic leukemia cells are susceptible to microtubule depolymerization in G_1 and M phases through distinct cell death pathways. J. Biol. Chem. 298: 101939.
8. Rizza, S., et al. 2023. GSNOR deficiency promotes tumor growth via FAK1 S-nitrosylation. Cell Rep. 42: 111997.
9. Futran, A.S., et al. 2024. Ubiquitin-specific protease 7 inhibitors reveal a differentiated mechanism of p53-driven anti-cancer activity. iScience 27: 109693.

RESEARCH USE

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