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ProductInformation

ANTI-MCL-1
Developed in Rabbit, IgG Fraction of Antiserum

Product Number **M 8434**

Product Description

Anti-Mcl-1 is developed in rabbit using a synthetic peptide corresponding to an internal region of Mcl-1 of human origin (amino acids 121-139) with N-terminal added cysteine, conjugated to maleimide activated-KLH, as immunogen. This sequence is highly similar in mouse and rat. Whole antiserum is fractionated and further purified by anion-exchange chromatography to provide the IgG fraction of antiserum that is essentially free of other rabbit serum proteins.

Anti-Mcl-1 specifically recognizes Mcl-1 in tissue and cell extracts by immunoblotting (40 to 42 kDa doublet). Staining of Mcl-1 by immunoblotting is specifically inhibited with the immunizing peptide.

Mcl-1 (Myeloid cell leukemia-1) is an anti-apoptotic member of the Bcl-2 family that contains three Bcl-2 homology domains: BH1, BH2 and BH3.[1,2] A recently described pro-apoptotic BH3 domain–only, Mcl-1s protein is capable of dimerization with Mcl-1 (Mcl-1l).

Unlike the stable Bcl-2 protein, Mcl-1 exhibits great lability presumably due to its PEST sequence (P, Pro; E, Glu; S, Ser; T, Thr).[1] PEST sequences may represent sites of protein-protein interaction for eukaryotic proteins and may target proteins for phosphorylation and/or degradation.[3,4] Its expression is rapidly and transiently enhanced in ML-1 human myeloblastic leukemia cell line during phorbol ester (TPA) induced differentiation along the mono-cytic/macrophage pathway. This early upregulation seems to involve signal transduction through ERKs and transcriptional activation by SRF and ELK-1.[5] Induction of Mcl-1 expression occurs in several other cell lines of myeloid origin and is increased in response to GM-CSF. Increased Mcl-1 expression is detected also in cells exposed to various types of DNA damaging agents such as ultraviolet or ionizing radiation and alkylating agents.[6] Mcl-1, like Bcl-2, promotes cell viability under conditions which otherwise cause apoptosis. Transfection of Mcl-1 into cells partially blocks apoptosis and viability enhancing effects are found in lymphoid cells from Mcl-1 transgenic mice.[7] Inhibition of apoptosis is primarily effected by dimerization with Bax and, in rat, also by interaction with Bak, Bok, Bik, and Bod.[8] Mcl-1 is expressed in many normal and neoplastic cells and is especially abundant in skeletal and cardiac muscle and in germinal centers of lymphoid tissues.[9,10,8] It is predominantly expressed in the mitochondria but in neutrophils it seems to be mainly located in nuclear fractions.[11]

Reagent

Anti-Mcl-1 is provided as the IgG fraction of antiserum in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

Protein concentration is 10 to15 mg/ml.

Precautions and Disclaimer

Due to the sodium azide content a material safety sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution.
Consult the MSDS for information regarding hazardous and safe handling practices.

Storage/Stability

For continuous use, store at 2 °C to 8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. Storage in "frost-free" freezers is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

A minimum working dilution of 1:8000 is determined by immunoblotting using HeLa human epithelioid carcinoma mitochondria extract.

Mcl-1 is immunoprecipitated from the lysate of mitochondria from 2.5 to 5.0x10^7 HeLa cells using 100 to 150 µg of the antibody.

Note: In order to obtain best results in different techniques and preparations we recommend determining optimal working dilution by titration test.

References

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