Store at -20°C

#4572

Mcl-1 Antibody

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not For Use In Diagnostic Procedures.

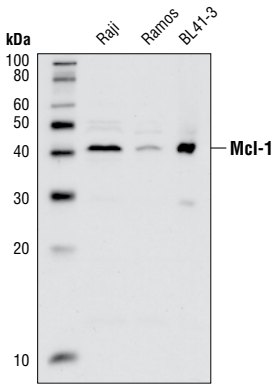
Entrez-Gene ID # 4170
Swiss-Prot Acc. # Q07820

Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W Endogenous	H	40 kDa	Rabbit**

Background: Mcl-1 is an anti-apoptotic member of Bcl-2 family originally isolated from the ML-1 human myeloid leukemia cell line during phorbol ester-induced differentiation along the monocyte/macrophage pathway (1). Similar to other Bcl-2 family members, Mcl-1 localizes to the mitochondria (2), interacts with and antagonizes pro-apoptotic Bcl-2 family members (3), and inhibits apoptosis by a number of cytotoxic stimuli (4). Mcl-1 differs from its other family members in its regulation, both at the transcriptional level and post-translationally. First, Mcl-1 has an extended amino-terminal PEST region, which is responsible for its relatively short half-life (1,2). Second, unlike other family members, Mcl-1 is rapidly induced at the transcriptional level through a PI3-K/Akt dependent pathway resulting in increased expression during myeloid differentiation and cytokine stimulation (1,5-7). Mcl-1 is subject to regulation by phosphorylation and undergoes phosphorylation in response to treatment with phorbol ester, microtubule-damaging agents, and oxidative stress (8-10). Phosphorylation at the conserved MAP kinase/ERK site, Thr163, within the PEST region, slows the turnover of the Mcl-1 protein (10). Mcl-1 deficiency in mice results in peri-implantation lethality (11). However, conditional disruption of the mcl-1 gene shows that Mcl-1 plays an important role in early lymphoid development and in the maintenance of mature lymphocytes (12).

Specificity/Sensitivity: Mcl-1 Antibody detects endogenous levels of human Mcl-1. The antibody does not cross-react with other Bcl-2 family members at physiological levels.

Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic peptide (KLH-coupled) corresponding to residues surrounding Ser121 of human Mcl-1. Antibodies are purified by protein A and peptide affinity chromatography.



Western blot analysis of extracts from Raji, Ramos and BL41-3 (a subline of BL41 Burkitt lymphoma cells found to have amplified expression of Mcl-1) cells, using Mcl-1 Antibody.

Background References:

(1) Kozopas, K.M. et al. (1993) *Proc. Natl. Acad. Sci. USA* 90, 3516–3520.
(2) Yang, T. et al. (1995) *J. Cell. Biol.* 128, 1173–1184.
(3) Sato, T. et al. (1994) *Proc. Natl. Acad. Sci. USA* 91, 9238–9242.
(4) Zhou, P. et al. (1997) *Blood* 89, 630–643.
(5) Wang, J. et al. (1999) *Mol. Cell. Biol.* 19, 6195–6206 .
(6) Jourdan, M. et al. (2003) *Oncogene* 22, 2950–2959.
(7) Chao, J.R. et al. (1998) *Mol. Cell. Biol.* 18, 4883–4898.
(8) Domina, A.M. et al. (2000) *J. Biol. Chem.* 275, 21688–21694.
(9) Inoshita, S. et al. (2002) *J. Biol. Chem.* 277, 43730–43734.
(10) Domina, A.M. et al. (2004) *Oncogene* 23, 5301–5315.
(11) Rinkenberger, J.L. et al. (2000) *Genes Dev.* 14, 23–27.
(12) Opferman, J.T. et al. (2003) *Nature* 426, 671–676.

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. *Do not aliquot the antibody.*

***Species cross-reactivity is determined by western blot.**

****Anti-rabbit secondary antibodies must be used to detect this antibody.**

Recommended Antibody Dilutions:

Western blotting	1:1000

For application specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended companion products.

IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.

Applications Key: **W**—Western **IP**—Immunoprecipitation **IHC**—Immunohistochemistry **ChIP**—Chromatin Immunoprecipitation **IF**—Immunofluorescence **F**—Flow cytometry **E-P**—ELISA-Peptide
Species Cross-Reactivity Key: **H**—human **M**—mouse **R**—rat **Hm**—hamster **Mk**—monkey **Mi**—mink **C**—chicken **Dm**—D. melanogaster **X**—Xenopus **Z**—zebrafish **B**—bovine **Dg**—dog **Pg**—pig **Sc**—S. cerevisiae **Ce**—C. elegans **Hr**—Horse **All**—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.