

#13297 Store at -20°C

Phospho-Mcl-1 (Ser64) Antibody


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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source:	UniProt ID:	Entrez-Gene Id:
WB	H	Endogenous	40	Rabbit	#Q07820	4170

Product Usage Information	Application Western Blotting	Dilution 1:1000
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.	
Specificity / Sensitivity	Phospho-Mcl-1 (Ser64) Antibody recognizes endogenous levels of Mcl-1 protein only when phosphorylated at Ser64. Non-specific bands of unknown origin are detected in some cell lines at 70 and 140 kDa.	
Source / Purification	Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Ser64 of human Mcl-1 protein.	
Background	<p>Mcl-1 is an anti-apoptotic member of the 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 induced by a number of cytotoxic stimuli (4). Mcl-1 differs from its other family members in its regulation at both the transcriptional and posttranslational level. 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 transcribed via a PI3K/Akt dependent pathway, resulting in its increased expression during myeloid differentiation and cytokine stimulation (1,5-7). Mcl-1 is phosphorylated in response to treatment with phorbol ester, microtubule-damaging agents, oxidative stress, and cytokine withdrawal (8-11). Phosphorylation at Thr163, the conserved MAP kinase/ERK site located within the PEST region, slows Mcl-1 protein turnover (10) but may prime the GSK-3 mediated phosphorylation at Ser159 that leads to Mcl-1 destabilization (11). Mcl-1 deficiency in mice results in peri-implantation lethality (12). In addition, conditional disruption of the corresponding <i>mcl-1</i> gene shows that Mcl-1 plays an important role in early lymphoid development and in the maintenance of mature lymphocytes (13). Phosphorylation of Mcl-1 at Ser64 can target it for ubiquitination and destruction by the tumor suppressor protein FBW7 (14,15).</p>	
Background References	<ol style="list-style-type: none"> 1. Kozopas, K.M. et al. (1993) <i>Proc Natl Acad Sci USA</i> 90, 3516-20. 2. Yang, T. et al. (1995) <i>J Cell Biol</i> 128, 1173-84. 3. Sato, T. et al. (1994) <i>Proc Natl Acad Sci USA</i> 91, 9238-42. 4. Zhou, P. et al. (1997) <i>Blood</i> 89, 630-43. 5. Wang, J.M. et al. (1999) <i>Mol Cell Biol</i> 19, 6195-206. 6. Jourdan, M. et al. (2003) <i>Oncogene</i> 22, 2950-9. 7. Chao, J.R. et al. (1998) <i>Mol Cell Biol</i> 18, 4883-98. 8. Domina, A.M. et al. (2000) <i>J Biol Chem</i> 275, 21688-94. 9. Inoshita, S. et al. (2002) <i>J Biol Chem</i> 277, 43730-4. 10. Domina, A.M. et al. (2004) <i>Oncogene</i> 23, 5301-15. 11. Maurer, U. et al. (2006) <i>Mol Cell</i> 21, 749-60. 12. Rinkenberger, J.L. et al. (2000) <i>Genes Dev</i> 14, 23-7. 13. Opferman, J.T. et al. (2003) <i>Nature</i> 426, 671-6. 14. Inuzuka, H. et al. (2011) <i>Nature</i> 471, 104-9. 15. Wertz, I.E. et al. (2011) <i>Nature</i> 471, 110-4. 	

Species Reactivity	Species reactivity is determined by testing in at least one approved application (e.g., western blot).
Western Blot Buffer	IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key**WB:** Western Blotting**Cross-Reactivity Key**

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **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
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

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