Revision 3

#14570 Store at -20C

Puma (E1S7A) Rabbit mAb

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, IP	M R	Endogenous	23-25	Rabbit IgG	#Q99ML1	170770

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:50

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. *Do not aliquot the antibody.*

Specificity / Sensitivity

Puma (E1S7A) Rabbit mAb recognizes endogenous levels of total Puma protein in mouse and rat.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Pro75 of mouse Puma protein.

Background

Puma (p53 upregulated modulator of apoptosis) is a "BH3-only" Bcl-2 family member originally identified in differential gene expression studies as a p53-inducible gene (1,2). The "BH3-only" family members include Bad, Bid, Bik, Hrk, Bim, and Noxa, all of which contain a BH3 domain but lack other conserved domains, BH1 and BH2, and generally promote apoptosis by binding to and antagonizing anti-apoptotic Bcl-2 family members through BH3 domain interactions (3). Two BH3-containing proteins are produced from the *puma* gene, Puma-α and Puma-β, both of which are induced by p53, bind Bcl-2 and Bcl-xL, localize to the mitochondria, and promote cytochrome c release and apoptosis (1,2). Puma plays a critical role in the p53 tumor suppressor pathway. Targeted disruption of the *puma* gene impairs p53-mediated apoptosis and tumor suppression (4-7). Puma knockout mice show defects from multiple apoptotic stimuli, including ionizing irradiation, deregulated c-Myc expression, and cytokine withdrawal (4).

Background References

1. Yu, J. et al. (2001) *Mol Cell* 7, 673-82.
2. Nakano, K. and Vousden, K.H. (2001) *Mol Cell* 7, 683-94.
3. Bouillet, P. and Strasser, A. (2002) *J Cell Sci* 115, 1567-74.
4. Jeffers, J.R. et al. (2003) *Cancer Cell* 4, 321-8.
5. Hemann, M.T. et al. (2004) *Proc Natl Acad Sci U S A* 101, 9333-8.
6. Yu, J. et al. (2003) *Proc Natl Acad Sci U S A* 100, 1931-6.
7. Villunger, A. et al. (2003) *Science* 302, 1036-8.

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 **IP:** Immunoprecipitation

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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