Revision 1

#49269 Store at +4C

Bmi1 (D20B7) XP® Rabbit mAb (PE Conjugate)

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
FC-FP	H Mk	Endogenous	Rabbit IgG	#P35226	648

Product Usage Information

Application	Dilution
Flow Cytometry (Fixed/Permeabilized)	1:50

Storage

Supplied in PBS (pH 7.2), less than 0.1% sodium azide and 2 mg/ml BSA. Store at 4°C. Do not aliquot the antibody. Protect from light. Do not freeze.

Specificity / Sensitivity

Bmi1 (D20B7) XP® Rabbit mAb (PE Conjugate) recognizes endogenous levels of total Bmi1 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with recombinant protein specific to the carboxy terminus of human Bmi1 protein.

Product Description

This Cell Signaling Technology antibody is conjugated to phycoerythrin (PE) and tested in-house for direct flow cytometric analysis in human cells. The antibody is expected to exhibit the same species cross-reactivity as the unconjugated Bmi1 (D20B7) XP® Rabbit mAb #6964.

Background

The polycomb group (PcG) of proteins contributes to the maintenance of cell identity, stem cell self-renewal, cell cycle regulation, and oncogenesis by maintaining the silenced state of genes that promote cell lineage specification, cell death, and cell-cycle arrest (1-4). PcG proteins exist in two complexes that cooperate to maintain long-term gene silencing through epigenetic chromatin modifications. The first complex, EED-EZH2, is recruited to genes by DNA-binding transcription factors and methylates histone H3 on Lys27. This histone methyl-transferase activity requires the Ezh2, Eed, and Suz12 subunits of the complex (5). Histone H3 methylation at Lys27 facilitates the recruitment of the second complex, PRC1, which ubiquitinylates histone H2A on Lys119 (6). Bmi1 is a component of the PRC1 complex, which together with Ring1 strongly enhances the E3 ubiquitin ligase activity of the Ring2 catalytic subunit (7). Bmi1 plays an important role in the regulation of cell proliferation and senescence through repression of the p16 INK4A and p19 ARF genes and is required for maintenance of adult hematopoietic and neural stem cells (3,4,8-10).

Background References

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2. Lee, T.I. et al. (2006) *Cell* 125, 301-13.
3. Park, I.K. et al. (2003) *Nature* 423, 302-5.
4. Molofsky, A.V. et al. (2003) *Nature* 425, 962-7.
5. Cao, R. and Zhang, Y. (2004) *Mol Cell* 15, 57-67.
6. Wang, H. et al. (2004) *Nature* 431, 873-8.
7. Cao, R. et al. (2005) *Mol Cell* 20, 845-54.
8. Molofsky, A.V. et al. (2005) *Genes Dev* 19, 1432-7.
9. Jacobs, J.J. et al. (1999) *Nature* 397, 164-8.
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Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Applications Key

FC-FP: Flow Cytometry (Fixed/Permeabilized)

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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