Revision 4

Store at +4C

#2240

PU.1 (9G7) Rabbit mAb (Alexa Fluor® 647 Conjugate)

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
FC-FP	H M	Endogenous	Rabbit	#P17947	6688

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

PU.1 (9G7) Rabbit mAb (Alexa Fluor® 647 Conjugate) detects endogenous levels of total PU.1 protein. The antibody does not cross react with other Ets family members.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to the sequence of human PU.1 protein. The antibody was conjugated to Alexa Fluor® 647 under optimal conditions with an F/P ratio of 2-6. The Alexa Fluor® 647 dye is maximally excited by red light (e.g. 633 nm He-Ne laser). Antibody conjugates of the Alexa Fluor® 647 dye produce bright far-red-fluorescence emission, with a peak at 665 nm.

Description

This Cell Signaling Technology antibody is conjugated to Alexa Fluor® 647 fluorescent dye and tested in-house for direct flow cytometric analysis of human cells. The unconjugated antibody #2258 reacts with human and mouse PU.1 protein. CST expects that PU.1 (9G7) Rabbit mAb (Alexa Fluor® 647 Conjugate) will also recognize PU.1 in these species.

Background

PU.1 is a member of the Ets family of transcription factors and activates target genes through the purine-rich PU-box (1). PU.1 plays a pivotal role in the differentiation of myeloid cells and lymphocytes and is expressed in several hematopoietic cells, including B lymphocytes, macrophages, neutrophils, mast cells, early erythroid cells, and megakaryocytes (1,2). The concentration of PU.1 is critical for both the determination of hematopoietic cell lineage and the regulation of differentiation versus stem cell proliferation (3,4). In addition, PU.1 activity is influenced by phosphorylation and interactions with other hematopoietic transcription factors. Phosphorylation of PU.1 at Ser146 by CK2 promotes binding to IRF-4 and synergistic activation through the immunoglobulin κ 3' enhancer (5). Treatment of pro-B cells with IL-3 leads to phosphorylation of PU.1 at Ser140, resulting in increased PU.1 activity and activation of the anti-apoptotic gene MCL-1 (6). GATA1 binding blocks PU.1 activity during erythroid cell development (7). Overexpression of PU.1 resulting from proviral insertion during Friend virus infection can induce erythroleukemia, while reduced expression has been associated with acute myeloid leukemia (8).

Background References

1. Lloberas, J. et al. (1999) *Immunol Today* 20, 184-9.
2. Klemsz, M.J. et al. (1990) *Cell* 61, 113-24.
3. Dahl, R. and Simon, M.C. (2003) *Blood Cells Mol Dis* 31, 229-33.
4. DeKoter, R.P. and Singh, H. (2000) *Science* 288, 1439-41.
5. Pongubala, J.M. et al. (1993) *Science* 259, 1622-5.
6. Wang, J.M. et al. (2003) *Mol Cell Biol* 23, 1896-909.
7. Zhang, P. et al. (1999) *Proc Natl Acad Sci U S A* 96, 8705-10.
8. Moreau-Gachelin, F. et al. (1988) *Nature* 331, 277-80.

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

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