Revision 6

Store at +4C

#2216

# PU.1 (9G7) Rabbit mAb (Alexa Fluor® 488 Conjugate)

Cell Signaling TECHNOLOGY®

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**For Research Use Only. Not for Use in Diagnostic Procedures.**

| Applications: | Reactivity: | Sensitivity: | Source/Isotype: | UniProt ID: | Entrez-Gene Id: |
|---|---|---|---|---|---|
| FC-FP | H M | Endogenous | Rabbit IgG | #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® 488 Conjugate) detects endogenous levels of total PU.1 protein. This antibody does not cross react with other Ets family members.

## Species predicted to react based on 100% sequence homology

Pig

## 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® 488 under optimal conditions with an F/P ratio of 2-6.

## Description

This Cell Signaling Technology antibody is conjugated to Alexa Fluor® 488 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® 488 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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