

PU.1 Blocking Peptide

✓ 100 µg
(100 sections)



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For Research Use Only. Not For Use In Diagnostic Procedures.

Description: This peptide is used to specifically block PU.1 (9G7) Rabbit mAb #2258 reactivity.

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 IRF4 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).

Quality Control: The quality of the peptide was evaluated by reversed-phase HPLC and by mass spectrometry. The peptide detects PU.1 (9G7) Rabbit mAb #2258 by peptide dot blot.

Directions for Use: Use as a blocking reagent to evaluate the specificity of antibody reactivity by peptide dot blot protocols.

Background References:

- (1) Lloberas, J. et al. (1999) *Immunol. Today* 20, 184-189.
- (2) Klemsz, M.J. et al. (1990) *Cell* 61, 113-124.
- (3) Dahl, R. and Simon, M.C. (2003) *Blood Cells Mol. Dis.* 31, 229-233.
- (4) DeKoter, R.P. and Singh, H. (2000) *Science* 288, 1439-1441.
- (5) Pongubala, J.M. et al. (1993) *Science* 259, 1622-1625.
- (6) Wang, J.M. et al. (2003) *Mol. Cell Biol.* 23, 1896-1909.
- (7) Zhang, P. et al. (1999) *Proc. Natl. Acad. Sci. USA* 96, 8705-8710.
- (8) Moreau-Gachelin, F. et al. (1998) *Nature* 331, 277-280.

Entrez Gene ID #6688
UniProt ID #P17947

Storage: Supplied in 20 mM potassium phosphate (pH 7.0), 50 mM NaCl, 0.1 mM EDTA, 1 mg/ml BSA, 5% glycerol and 1% DMSO. Store at -20°C.

For product specific protocols please see the web page for this product at www.cellsignal.com.

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