

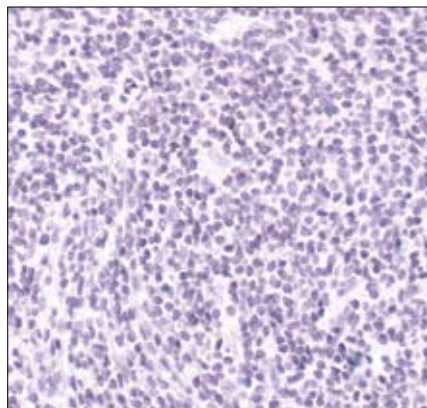
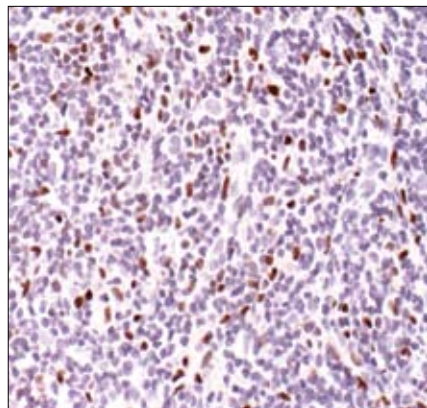
PU.1 Blocking Peptide

✓ 100 µg
(100 sections)

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This product is for *in vitro* research use only and is not intended for use in humans or animals.



Immunohistochemical analysis of paraffin-embedded Non-Hodgkin's lymphoma, using PU.1 (9G7) Rabbit mAb #2258 in the presence of control peptide (left) or PU.1 Blocking Peptide (right).

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 Casein Kinase II (CKII) 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).

Description: This peptide is used to block PU.1 Antibody #2266 and PU.1 (9G7) Rabbit mAb #2258 reactivity.

Quality Control: The quality of the peptide was evaluated by reversed-phase HPLC and by mass spectrometry. The peptide blocks PU.1 Antibody #2266 and PU.1 (9G7) Rabbit mAb #2258 by immunohistochemistry.

Applications: Use as a blocking reagent to evaluate the specificity of antibody reactivity in immunohistochemistry protocols.

Directions for Use: For immunohistochemistry, add twice the volume of peptide as volume of antibody used in 100 µl total volume. Incubate for a minimum of 30 minutes prior to adding the entire volume to the slide. Recommended antibody dilutions can be found on the relevant product data sheet.

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.

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

Companion Products:

- PU.1 Antibody #2266
- PU.1 (9G7) Rabbit mAb #2258