

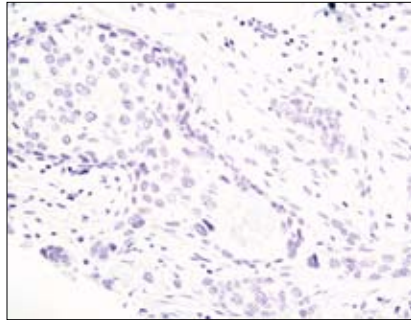
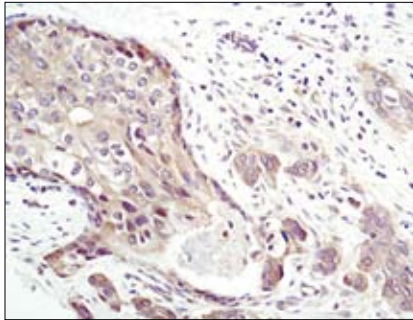
# PP2A A Subunit Blocking Peptide

✓ 100 µg

**Orders** ■ 877-616-CELL (2355)  
orders@cellsignal.com  
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info@cellsignal.com  
**Web** ■ www.cellsignal.com

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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 human breast carcinoma using PP2A A Subunit (81G5) Rabbit mAb #2041 in the presence of control peptide (left) or PP2A A Subunit Blocking Peptide (right).

**Description:** This peptide is used to block PP2A A Subunit (81G5) Rabbit mAb #2041 reactivity in immunohistochemistry protocols.

**Background:** Protein phosphatase type 2A (PP2A) is an essential protein serine/threonine phosphatase that is conserved in all eukaryotes. PP2A is a key enzyme within various signal transduction pathways as it regulates fundamental cellular activities such as DNA replication, transcription, translation, metabolism, cell cycle progression, cell division, apoptosis and development (1-3). The core enzyme consists of catalytic C and regulatory A (or PR65) subunits, with each subunit represented by  $\alpha$  and  $\beta$  isoforms (1). Additional regulatory subunits belong to four different families of unrelated proteins. Both the B (or PR55) and B' regulatory protein families contain  $\alpha$ ,  $\beta$ ,  $\gamma$  and  $\delta$  isoforms, with the B' family also including an  $\epsilon$  protein. B'' family proteins include PR72, PR130, PR59 and PR48 isoforms, while striatin (PR110) and SG2NA (PR93) are both members of the B''' regulatory protein family. These B subunits competitively bind to a shared binding site on the core A subunit (1). This variable array of holoenzyme components, particularly regulatory B subunits, allows PP2A to act in a diverse set of functions. PP2A function is regulated by expression, localization, holoenzyme composition and post-translational modification. Phosphorylation of PP2A at Tyr307 by Src occurs in response to EGF or insulin and results in a substantial reduction of PP2A activity (4). Reversible methylation on the carboxyl group of Leu309 of PP2A has been observed (5,6). Methylation alters the conformation of PP2A, as well as its localization and association with B regulatory subunits (6-8).

**Quality Control:** The quality of the peptide was evaluated by reversed-phase HPLC and by mass spectrometry. The peptide blocks PP2A A Subunit (81G5) Rabbit mAb #2041 signal in immunohistochemistry.

**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 product data sheet.

**Background References:**

- (1) Janssens, V. and Goris, J. (2001) *Biochem. J.* 353, 417-439.
- (2) Zolnierowicz, S. (2000) *Biochem. Pharmacol.* 60, 1225-1235.
- (3) Milward, T.A. et al. (1999) *Trends Biochem. Sci.* 24, 186-191.
- (4) Chen, J. et al. (1992) *Science* 257, 1261-1264.
- (5) Turowski, P. et al. (1995) *J. Cell. Biol.* 129, 397-410.
- (6) Lee, J. et al. (1996) *Proc. Natl. Acad. Sci. USA* 93, 6043-6047.
- (7) Tolstykh, T. et al. (2000) *EMBO J.* 19, 5682-5691.
- (8) Yu, X.X. et al. (2001) *Mol. Biol. Cell* 12, 185-199.

**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:**

PP2A A Subunit (81G5) Rabbit mAb #2041