

# PP2A C Subunit Antibody

100 µl  
(10 western blots)

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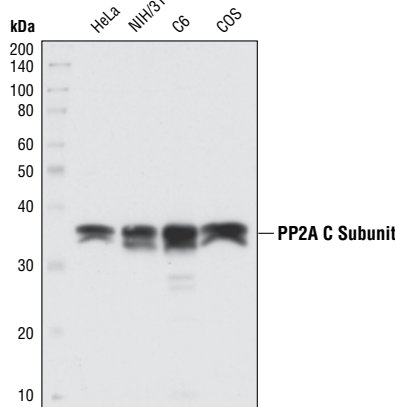
This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W, IP, IHC-P, IF-IC, F Endogenous	H, M, R, Mk, Dm, (Pg) (C)	36, 38 kDa	Rabbit**

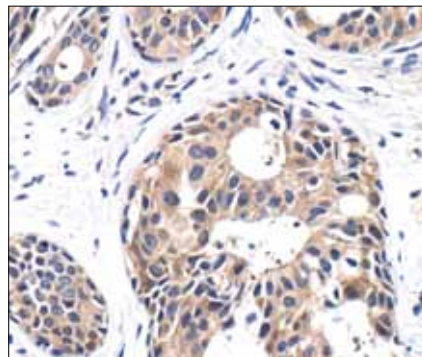
**Background:** Protein phosphatase type 2A (PP2A) is an essential protein serine/threonine phosphatase that is conserved in all eukaryotes. PP2A is a key enzyme within various signal transduction pathways as it regulates fundamental cellular activities such as DNA replication, transcription, translation, 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).

**Specificity/Sensitivity:** This antibody detects endogenous levels of PP2A catalytic subunit protein (both  $\alpha$  and  $\beta$  isoforms). The antibody does not cross-react with other PP2A subunits.

**Source/Purification:** Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to amino acids at the carboxy terminus of human PP2A catalytic subunit. Antibodies are purified by protein A and peptide affinity chromatography.



Western blot analysis of extracts from HeLa, NIH/3T3, C6 and COS cells using PP2A C Subunit Antibody.



Immunohistochemical analysis of paraffin-embedded human breast carcinoma, showing cytoplasmic localization, using PP2A C Subunit Antibody.

Entrez-Gene ID #P07900  
Swiss-Prot Acc. #3320

**Storage:** Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

\*Species cross-reactivity is determined by western blot.

\*\*Anti-rabbit secondary antibodies must be used to detect this antibody.

**Recommended Antibody Dilutions:**

Western Blotting	1:1000
Immunoprecipitation	1:100
Immunohistochemistry (Paraffin)	1:100
Unmasking buffer:	Citrate
Antibody diluent:	TBST-5%NGS
Immunofluorescence (IF-IC)	1:50
Flow Cytometry	1:100

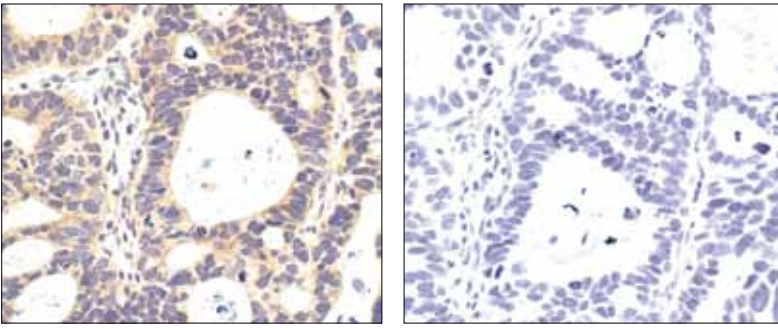
For application specific protocols please see the web page for this product at [www.cellsignal.com](http://www.cellsignal.com).

Please visit [www.cellsignal.com](http://www.cellsignal.com) for a complete listing of recommended companion products.

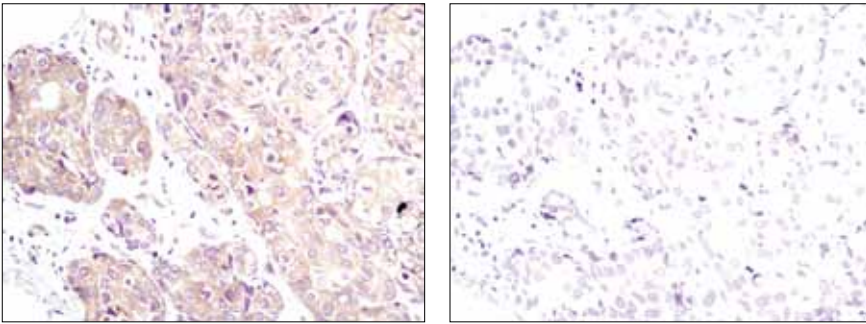
**Background References:**

- (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.

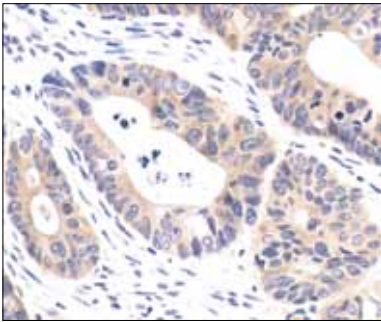
**IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.**



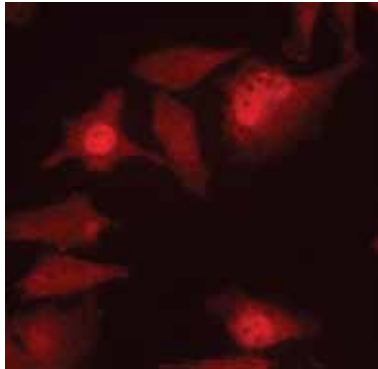
Immunohistochemical analysis of paraffin-embedded human lung carcinoma using PP2A C Subunit Antibody in the presence of control peptide (left) or antigen-specific peptide, #1067 (right).



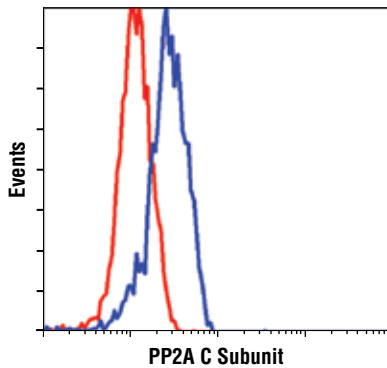
Immunohistochemical analysis of paraffin-embedded human breast carcinoma using PP2A C Subunit Antibody in the presence of control peptide (left) or PP2A C Subunit Blocking Peptide, #1067 (right).



Immunohistochemical analysis of paraffin-embedded human colon carcinoma using PP2A C Subunit Antibody.



Immunofluorescent analysis of paraformaldehyde fixed HeLa cells using PP2A C Subunit Antibody.



Flow cytometric analysis of NIH/3T3 cells using PP2A C Subunit Antibody (blue) compared to a non-specific negative control antibody (red).