

**#2038** Store at -20C

## PP2A C Subunit Antibody


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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source:	UniProt ID:	Entrez-Gene Id:
WB, IP, IHC-P, IF-IC, FC-FP	H M R Mk Dm	Endogenous	36, 38	Rabbit	#P67775	5515

### Product Usage Information

#### Application

Western Blotting  
Immunoprecipitation  
Immunohistochemistry (Paraffin)  
Immunofluorescence (Immunocytochemistry)  
Flow Cytometry (Fixed/Permeabilized)

#### Dilution

1:1000  
1:100  
1:100  
1:50  
1:100

### 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.

### 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.

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

Chicken, Pig

### 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.

### 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).

### Background References

1. Janssens, V. and Goris, J. (2001) *Biochem J* 353, 417-39.
2. Zolnierowicz, S. (2000) *Biochem Pharmacol* 60, 1225-35.
3. Millward, T.A. et al. (1999) *Trends Biochem Sci* 24, 186-91.
4. Chen, J. et al. (1992) *Science* 257, 1261-4.
5. Turowski, P. et al. (1995) *J Cell Biol* 129, 397-410.
6. Lee, J. et al. (1996) *Proc Natl Acad Sci U S A* 93, 6043-7.
7. Tolstykh, T. et al. (2000) *EMBO J* 19, 5682-91.
8. Yu, X.X. et al. (2001) *Mol Biol Cell* 12, 185-99.

**Species Reactivity**

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

**Western Blot Buffer**

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

**Applications Key**

**WB:** Western Blotting **IP:** Immunoprecipitation **IHC-P:** Immunohistochemistry (Paraffin)  
**IF-IC:** Immunofluorescence (Immunocytochemistry) **FC-FP:** Flow Cytometry (Fixed/Permeabilized)

**Cross-Reactivity Key**

**H:** human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster  
**X:** Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse  
**GP:** Guinea Pig **Rab:** rabbit **All:** all species expected

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