

#2047 Store at -20°C

# CENP-A (C5H3) Rabbit mAb (Mouse Specific)

✓ 100 µl (10 western blots)



Orders ■ 877-616-CELL (2355) orders@cellsignal.com  
Support ■ 877-678-TECH (8324) info@cellsignal.com  
Web ■ www.cellsignal.com

rev. 05/12/11

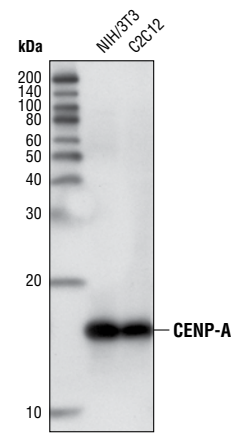
This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Applications W, IP Endogenous	Species Cross-Reactivity* M	Molecular Wt. 17 kDa	Isotype Rabbit**
-------------------------------------	--------------------------------	-------------------------	---------------------

**Background:** Modulation of chromatin structure plays a critical role in the regulation of transcription and replication of the eukaryotic genome. The nucleosome, made up of four core histone proteins (H2A, H2B, H3, and H4), is the primary building block of chromatin. In addition to the growing number of post-translational histone modifications regulating chromatin structure, cells can also exchange canonical histones with variant histones that can directly or indirectly modulate chromatin structure (1). CENP-A, also known as the chromatin-associated protein CSE4 (capping-enzyme suppressor 4-p), is an essential histone H3 variant that replaces canonical histone H3 in centromeric heterochromatin (2). The greatest divergence between CENP-A and canonical histone H3 occurs in the amino-terminal tail of the protein, which binds linker DNA between nucleosomes and facilitates proper folding of centromeric heterochromatin (3). The amino-terminal tail of CENP-A is also required for recruitment of other centromeric proteins (CENP-C, hSMC1, hZW10), proper kinetochore assembly and chromosome segregation during mitosis (4). Additional sequence divergence in the histone fold domain is responsible for correct targeting of CENP-A to the centromere (5). Many of the functions of CENP-A are regulated by phosphorylation (6,7). Aurora A-dependent phosphorylation of CENP-A on Ser7 during prophase is required for proper targeting of Aurora B to the inner centromere in prometaphase, proper kinetochore/microtubule attachment and proper alignment of chromosomes during mitosis (6).

**Specificity/Sensitivity:** CENP-A (C5H3) Rabbit mAb detects endogenous levels of total mouse CENP-A protein. This antibody does not cross-react with other histone proteins, including Histone H3.

**Source/Purification:** Monoclonal antibody is produced by immunizing animals with a synthetic peptide (KLH-coupled) corresponding to the amino terminus of mouse CENP-A protein.



Western blot analysis of cell extracts from NIH/3T3 and C2C12 cells using CENP-A (C5H3) Rabbit mAb.

### Background References:

- (1) Jin, J. et al. (2005) *Trends Biochem Sci* 30, 680–7.
- (2) Ausió, J. (2006) *Brief Funct Genomic Proteomic* 5, 228–43.
- (3) Heit, R. et al. (2006) *Biochem Cell Biol* 84, 605–18.
- (4) Van Hooser, A.A. et al. (2001) *J Cell Sci* 114, 3529–42.
- (5) Black, B.E. et al. (2004) *Nature* 430, 578–82.
- (6) Kunitoku, N. et al. (2003) *Dev Cell* 5, 853–64.
- (7) Zeitlin, S.G. et al. (2001) *J Cell Biol* 155, 1147–57.

Entrez-Gene ID #12615  
Swiss-Prot Acc. #035216

**Storage:** Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. 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 1:50

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.

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

Rabbit monoclonal antibody is produced under license (granting certain rights including those under U. S. Patent No. 5,675,063) from Epitomics, Inc.

© 2011 Cell Signaling Technology, Inc. Cell Signaling Technology® is a trademark of Cell Signaling Technology, Inc.

**Applications Key:** W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide

**Species Cross-Reactivity Key:** H—human M—mouse R—rat Hm—hamster Mk—monkey 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 All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.