



Orders: 877-616-CELL (2355)
orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

#2186 Store at -20C

CENP-A Antibody

For Research Use Only. Not for Use in Diagnostic Procedures.

Applications: W	Reactivity: H	Sensitivity: Endogenous	MW (kDa): 17	Source/Isotype: Rabbit	UniProt ID: #P49450	Entrez-Gene Id: 1058
---------------------------	-------------------------	-----------------------------------	------------------------	----------------------------------	-------------------------------	--------------------------------

Product Usage Information

Application

Western Blotting

Dilution

1:1000

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

CENP-A Antibody detects endogenous levels of total human CENP-A protein. This antibody does not cross-react with other histone proteins, including Histone H3.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to human CENP-A protein. Antibodies are purified by peptide affinity chromatography.

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).

Background References

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

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 BSA, 1X TBS, 0.1% Tween@ 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

H: Human

Trademarks and Patents

Cell Signaling Technology is a trademark of Cell Signaling Technology, Inc.

Alexa Fluor is a registered trademark of Life Technologies Corporation.

All other trademarks are the property of their respective owners. Visit cellsignal.com/trademarks for more information.

Limited Uses

Except as otherwise expressly agreed in a writing signed by a legally authorized representative of CST, the following terms apply to Products provided by CST, its affiliates or its distributors. Any Customer's terms and conditions that are in addition to, or different from, those contained herein, unless separately accepted in writing by a legally authorized representative of CST, are rejected and are of no force or effect.

Products are labeled with For Research Use Only or a similar labeling statement and have not been approved, cleared, or licensed by the FDA or other regulatory foreign or domestic entity, for any purpose. Customer shall not use any Product for any diagnostic or therapeutic purpose, or otherwise in any manner that conflicts with its labeling statement. Products sold or licensed by CST are provided for Customer as the end-user and solely for research and development uses. Any use of Product for diagnostic, prophylactic or therapeutic purposes, or any purchase of Product for resale (alone or as a component) or other commercial purpose, requires a separate license from CST. Customer shall (a) not sell, license, loan, donate or otherwise transfer or make available any Product to any third party, whether alone or in combination with other materials, or use the Products to manufacture any commercial products, (b) not copy, modify, reverse engineer, decompile, disassemble or otherwise attempt to discover the underlying structure or technology of the Products, or use the Products for the purpose of developing any products or services that would compete with CST products or services, (c) not alter or remove from the Products any trademarks, trade names, logos, patent or copyright notices or markings, (d) use the Products solely in accordance with CST Product Terms of Sale and any applicable documentation, and (e) comply with any license, terms of service or similar agreement with respect to any third party products or services used by Customer in connection with the Products.