

# CENP-T Antibody

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

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**For Research Use Only. Not For Use In Diagnostic Procedures.**

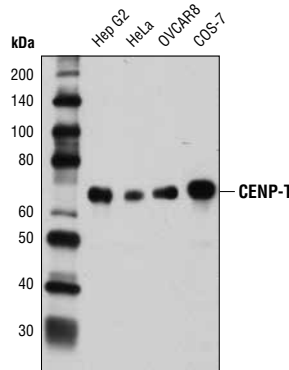
Applications W Endogenous	Species Cross-Reactivity* H, M, Mk	Molecular Wt. 65 kDa	Source Rabbit**
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**Background:** Modulation of chromatin structure plays a critical role in the regulation of transcription and replication of the eukaryotic genome. The 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).

CENP-A is regarded as the epigenetic mark of the centromere that persists through cell generations (5). Although its presence is necessary, it is not sufficient for formation of functional kinetochores (6). CENP-T, in complex with CENP-W, has recently been shown to form a histone fold, a structure that is capable of association with DNA, and target DNA to the kinetochore (7). Kinetochore attachment is mediated by a long flexible N-terminal region that has been shown to interact with outer proteins of the kinetochore complex (reviewed in 8). Moreover, the CENP-T-W complex has also been shown to interact with the CENP-S-X dimer, to form a heterotetrameric complex that has structural and potentially functional similarity to canonical histones (8). Since CENP-S-X are conserved kinetochore localized proteins, this new complex has been suggested to be a novel centromeric histone.

**Specificity/Sensitivity:** CENP-T Antibody recognizes endogenous levels of total CENP-T protein.

**Source/Purification:** Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy terminus of human CENP-T protein. Antibodies are purified by protein A and peptide affinity chromatography.



Western blot analysis of extracts from various cell lines using CENP-T Antibody.

Entrez-Gene ID #80152  
Swiss-Prot Acc. #Q96BT3

**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

**For product 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 complementary products.**

**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) Jansen, L.E. et al. (2007) *J Cell Biol* 176, 795-805.
- (6) Gascoigne, K.E. et al. (2011) *Cell* 145, 410-22.
- (7) Hori, T. et al. (2008) *Cell* 135, 1039-52.
- (8) Nishino, T. et al. (2012) *Cell* 148, 487-501.

**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.**

**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.