Revision 6

Histone H2A.Z Antibody

#2718 Store at -20C

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IF-IC	H M R Mk Z	Endogenous	14	Rabbit	#P0C0S5	3015

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunofluorescence (Immunocytochemistry)	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

Histone H2A.Z Antibody detects endogenous levels of histone H2A.Z protein. The antibody does not cross-react with other histone proteins, including histone H2A.

Species predicted to react based on 100% sequence homology

Chicken, Xenopus, Bovine

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to the carboxy terminus of human histone H2A.Z. Antibodies are purified by protein A and peptide affinity chromatography.

Background

Modulation of chromatin structure plays a critical role in the regulation of transcription in eukaryotes. 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). There are five major variants of histone H2A: canonical H2A (most abundant), H2A.X, MacroH2A, H2ABbd and H2A.Z (2). Histone H2A.Z, the most conserved variant across species, functions as both a positive and negative regulator of transcription and is important for chromosome stability (2). Several homologous protein complexes, such as SWR-C (*S. cerevisiae*), TIP60 (*D. melanogaster*) and SRCAP (mammals), have been shown to catalyze the ATP-dependent exchange of H2A.Z for H2A in the nucleosome (3,4,5). This exchange of histone H2A variants changes histone-histone interactions in the nucleosome core and alters an acidic patch on the surface of the nucleosome, resulting in changes in nucleosome stability and binding of non-histone proteins such as HP1α (6,7).

Background References

1. Jin, J. et al. (2005) *Trends Biochem Sci* 30, 680-7.
2. Raisner, R.M. and Madhani, H.D. (2006) *Curr Opin Genet Dev* 16, 119-24.
3. Mizuguchi, G. et al. (2004) *Science* 303, 343-8.
4. Kusch, T. et al. (2004) *Science* 306, 2084-7.
5. Ruhl, D.D. et al. (2006) *Biochemistry* 45, 5671-7.
6. Suto, R.K. et al. (2000) *Nat Struct Biol* 7, 1121-4.
7. Fan, J.Y. et al. (2004) *Mol Cell* 16, 655-61.

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 **IF-IC:** Immunofluorescence (Immunocytochemistry)

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat **Mk:** Monkey **Z:** Zebrafish

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