Revision 4

Store at -20C

#9681

Acetylated-Lysine (Ac-K-103) Mouse mAb

Cell Signaling TECHNOLOGY®

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

Applications:	Reactivity:	Sensitivity:	Source/Isotype:
W, E-P	All	Endogenous	Mouse IgG2a

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Peptide ELISA (DELFIA)	1:1000

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.*

For a carrier free (BSA and azide free) version of this product see product #66284.

Specificity/Sensitivity

Acetylated-Lysine (Ac-K-103) Mouse mAb detects proteins only when posttranslationally modified by acetylation on the epsilon-amine groups of lysine residues. Detection of acetylated lysine by this antibody is largely independent of surrounding amino acid sequence. The antibody has been shown to recognize acetylated proteins including histones, p53, CBP, PCAF and chemically acetylated BSA. (U.S. Patent No's.: 6,441,140; 6,982,318; 7,259,022; 7,344,714; U.S.S.N. 11,484,485; and all foreign equivalents.)

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic acetylated lysine-containing peptide.

Background

Acetylation of lysine, like phosphorylation of serine, threonine or tyrosine, is an important reversible modification controlling protein activity. The conserved amino-terminal domains of the four core histones (H2A, H2B, H3, and H4) contain lysines that are acetylated by histone acetyltransferases (HATs) and deacetylated by histone deacetylases (HDACs) (1). Signaling resulting in acetylation/deacetylation of histones, transcription factors, and other proteins affects a diverse array of cellular processes including chromatin structure and gene activity, cell growth, differentiation, and apoptosis (2-6). Recent proteomic surveys suggest that acetylation of lysine residues may be a widespread and important form of post-translational protein modification that affects thousands of proteins involved in control of cell cycle and metabolism, longevity, actin polymerization, and nuclear transport (7,8). The regulation of protein acetylation status is impaired in cancer and polyglutamine diseases (9), and HDACs have become promising targets for anti-cancer drugs currently in development (10).

Background References

1. Hassig, C.A. and Schreiber, S.L. (1997) *Curr Opin Chem Biol* 1, 300-8.
2. Allfrey, V.G. et al. (1964) *Proc Natl Acad Sci USA* 51, 786-94.
3. Liu, L. et al. (1999) *Mol Cell Biol* 19, 1202-9.
4. Boyes, J. et al. (1998) *Nature* 396, 594-8.
5. Polevoda, B. and Sherman, F. (2002) *Genome Biol* 3, reviews 0006.
6. Yoshida, M. et al. (2003) *Prog Cell Cycle Res* 5, 269-78.
7. Kim, S.C. et al. (2006) *Mol Cell* 23, 607-18.
8. Choudhary, C. et al. (2009) *Science* 325, 834-40.
9. Hughes, R.E. (2002) *Curr Biol* 12, R141-3.
10. Vigushin, D.M. and Coombes, R.C. (2004) *Curr Cancer Drug Targets* 4, 205-18.

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 **E-P:** Peptide ELISA (DELFIA)

Cross-Reactivity Key

All: All Species Expected

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