

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



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Applications	Species Cross-Reactivity*	Isotype	Motif
W, E-P Endogenous	All	Mouse IgG2a**	XXX(Kac)XXX

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). The regulation of protein acetylation status is impaired in the pathologies of cancer and polyglutamine diseases (7), and HDACs have become promising targets for anti-cancer drugs currently in development (8).

Specificity/Sensitivity: Acetylated-Lysine Mouse mAb (Ac-K-103) 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.)

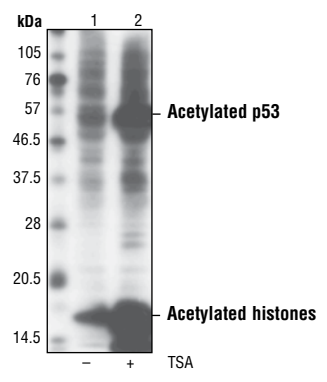
Source/Purification: Monoclonal antibodies are produced by immunizing mice with a synthetic acetylated lysine-containing peptide (KLH-coupled).

Background References:

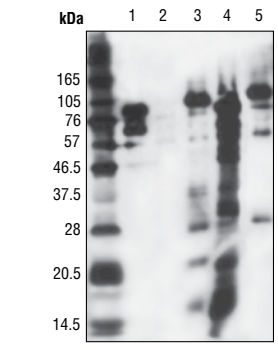
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Applications Key: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide
Species Cross-Reactivity Key: H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine
 Dg—dog Pg—pig Sc—S. cerevisiae All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.



Western blot analysis of extracts from COS cells, untreated or TSA-treated (0.4 μM for 18 hours), using Acetylated-Lysine Mouse mAb (Ac-K-103).



Western blot analysis of extracts from NIH/3T3 cells, untreated (lane 1) or treated in vitro with CPB (lane 2) or PCAF (lane 3). Lanes 4 and 5: PCAF and CBP, respectively, showing auto acetylation.

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 $\mu\text{g}/\text{ml}$ BSA and 50% glycerol. Store at -20°C . Do not aliquot the antibody.

*Species cross-reactivity is determined by western blot.

**Anti-mouse secondary antibodies must be used to detect this antibody.

Recommended Antibody Dilutions:
 Western blotting 1:1000
 ELISA (Peptide) 1:1000

For application specific protocols please see the web page for this product at www.cellsignal.com.

Companion Products:
 Acetylated-Lysine Antibody #9441
 Histone Deacetylase 1 (HDAC1) Antibody #2062
 Histone Deacetylase 4 (HDAC4) Antibody #2072
 Histone Deacetylase 5 (HDAC5) Antibody #2082
 Phototope[®]-HRP Western Blot Detection System, Anti-mouse IgG, HRP-linked Antibody #7072
 Anti-mouse IgG, HRP-linked Antibody #7076
 Prestained Protein Marker, Broad Range (Premixed Format) #7720

Biotinylated Protein Ladder Detection Pack #7727
 20X LumiGLO[®] Reagent and 20X Peroxide #7003

Please visit 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.