Revision 5

Store at -20C

#9814

Acetylated-Lysine (Ac-K^2-100) MultiMab® Rabbit mAb mix

Cell Signaling TECHNOLOGY®

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

Applications:	Reactivity:	Sensitivity:	Source/Isotype:
W, IP, ChIP, E-P	All	Endogenous	Rabbit IgG

Product Usage Information

For optimal ChIP results, use 10 µl of antibody and 10 µg of chromatin (approximately 4 x 10^6 cells) per IP. This antibody has been validated using SimpleChIP® Enzymatic Chromatin IP Kits.

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:100
Chromatin IP	1:50
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.

Specificity/Sensitivity

Acetylated-Lysine (Ac-K-100) MultiMab® Rabbit mAb mix recognizes proteins post-translationally modified by acetylation on the ε-amine groups of lysine residues. The antibody recognizes acetylated lysine in a wide range of sequence contexts. It has been demonstrated to recognize acetylated histones, p53, CBP, PCAF and chemically acetylated BSA. The antibody has been shown to react with as little as 0.04 ng of chemically acetylated BSA while not recognizing up to 25 µg of non-acetylated BSA.

Source / Purification

MultiMab® rabbit monoclonal mix antibodies are prepared by combining individual rabbit monoclonal clones in optimized ratios for the approved applications. Each antibody in the mix is carefully selected based on motif recognition and performance in multiple assays. Each mix is engineered to yield the broadest possible coverage of the modification being studied while ensuring a high degree of specificity for the modification or motif.

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

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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 **IP:** Immunoprecipitation **ChIP:** Chromatin IP **E-P:** Peptide ELISA (DELFIA)

Cross-Reactivity Key

All: All Species Expected

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