

Ac-Lys (AK-4): sc-32852

BACKGROUND

Lysine acetylation occurs in core histones, transcription factors and other proteins. This reversible modification is under the influence of signal-dependent association of substrates with acetyltransferases and deacetylases. Lysine acetylation generates specific docking sites for bromodomain proteins. Bromodomains of GCN5, PCAF, TAF1 and CBP are able to recognize acetyl-lysine residues in histones, HIV TAT, p53, c-Myb or MyoD. Trichostatin A (TSA), a histone deacetylase inhibitor, strongly increases acetylation of the N-terminal tails of Histone H3. Ethanol increases acetylation of Histone H3 at Lys 9 in a dose-dependent manner.

REFERENCES

1. Gaertig, J., et al. 1995. Acetylation of Lysine 40 in α Tubulin is not essential in *Tetrahymena thermophila*. J. Cell. Biol. 129: 1301-1310.
2. Grant, P.A., et al. 1999. Expanded lysine acetylation specificity of GCN5 in native complexes. J. Biol. Chem. 274: 5895-5900.
3. Lo, W.S., et al. 2000. Phosphorylation of Serine 10 in Histone H3 is functionally linked *in vitro* and *in vivo* to GCN5-mediated acetylation at Lysine 14. Mol. Cell 5: 917-926.
4. Terui, T., et al. 2003. Induction of PIG3 and NOXA through acetylation of p53 at 320 and 373 Lysine residues as a mechanism for apoptotic cell death by histone deacetylase inhibitors. Cancer Res. 63: 8948-8954.
5. Zhong, S., et al. 2003. Phosphorylation at Serine 28 and acetylation at Lysine 9 of Histone H3 induced by trichostatin A. Oncogene 22: 5291-5297.
6. Park, P.H., et al. 2003. Acetylation of Histone H3 at Lysine 9 by ethanol in rat hepatocytes. Biochem. Biophys. Res. Commun. 306: 501-504.
7. Yang, X.J. 2004. Lysine acetylation and the bromodomain: a new partnership for signaling. Bioessays 26: 1076-1087.
8. Yamaguchi, Y., et al. 2004. AML1 is functionally regulated through p300-mediated acetylation on specific lysine residues. J. Biol. Chem. 279: 15630-15638.
9. Yuan, Z.L., et al. 2005. Stat3 dimerization regulated by reversible acetylation of a single lysine residue. Science 307: 269-273.

SOURCE

Ac-Lys (AK-4) is available as either a goat (sc-32852) or rabbit (sc-32852-R) polyclonal antibody raised against a short amino acid sequence containing acetylated lysine.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-32852 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

Ac-Lys (AK-4) is recommended for detection of acetylated lysine by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with non-acetylated lysine.

Santa Cruz Biotechnology offers several chemical inducers of acetylation, including: Apicidin (sc-202061), Panobinostat (sc-208148), Suberoylanilide Hydroxamic Acid (sc-220139), Oxamflatin (sc-205960), Ms-275 (sc-279455), M 344 (sc-203124), Scriptaid (sc-202807), Trapoxin A (sc-253730) and Trichostatin A (sc-3511).

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: for goat primary antibody (sc-32852): use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), for rabbit primary antibody (sc-32852-R): use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: for goat primary antibody (sc-32852): use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941, for rabbit primary antibody (sc-32852-R): use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.