SANTA CRUZ BIOTECHNOLOGY, INC.

Ac-lysine (7F8): sc-81623

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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. Park, P.H., et al. 2003. Acetylation of Histone H3 at Hysine 9 by ethanol in rat hepatocytes. Biochem. Biophys. Res. Commun. 306: 501-504.

SOURCE

Ac-lysine (7F8) is a mouse monoclonal antibody raised against acetylated keyhole limpet hemocyanin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available azide-free for binding of Protein G, sc-81623 L, 200 µg/0.1 ml.

Ac-lysine (7F8) is available conjugated to agarose (sc-81623 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-81623 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-81623 PE), fluorescein (sc-81623 FITC), Alexa Fluor® 488 (sc-81623 AF488), Alexa Fluor® 546 (sc-81623 AF546), Alexa Fluor® 594 (sc-81623 AF594) or Alexa Fluor® 647 (sc-81623 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-81623 AF680) or Alexa Fluor® 790 (sc-81623 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

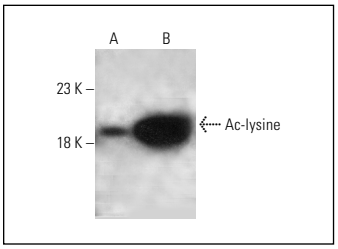
Ac-lysine (7F8) is recommended for detection of proteins containing acetylated lysine residues by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

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).

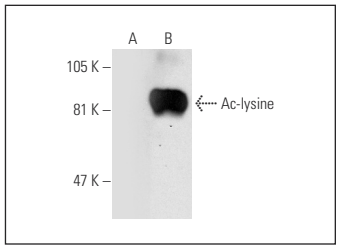
STORAGE

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

DATA



Ac-lysine (7F8) HRP: sc-81623 HRP. Direct western blot analysis of Ac-lysine expression in NIH/3T3 (**A**) and NIH/3T3 + Trichostatin A (**B**) whole cell lysates.



Ac-lysine (7F8): sc-81623. Western blot analysis of Ac-lysine expression in normal (**A**) and acetylated (**B**) BSA.

SELECT PRODUCT CITATIONS

1. Yessoufou, A., et al. 2009. DHA reduces suppressive and migratory functions of Treg cells. J. Lipid Res. 50: 2377-2388.
2. Cecarini, V., et al. 2012. Crosstalk between the ubiquitin-proteasome system and autophagy in a human cellular model of Alzheimer's disease. Biochim. Biophys. Acta 1822: 1741-1751.
3. Mak, A.B., et al. 2014. Post-translational regulation of CD133 by ATase1/ ATase2-mediated lysine acetylation. J. Mol. Biol. 426: 2175-2182.
4. Guo, L., et al. 2017. Angiotensin-(1-7) attenuates Angiotensin II-induced cardiac hypertrophy via a Sirt3-dependent mechanism. Am. J. Physiol. Heart Circ. Physiol. 312: H980-H991.
5. Zhou, R., et al. 2018. Histone deacetylase inhibitor AR-42 inhibits breast cancer cell growth and demonstrates a synergistic effect in combination with 5-FU. Oncol. Lett. 16: 1967-1974.
6. Yuan, Y., et al. 2019. Targeting UBE4A revives viperin protein in epithelium to enhance host antiviral defense. Mol. Cell 77: 734-747.
7. Hahm, J.Y., et al. 2020. Acetylation of UHRF1 regulates hemi-methylated DNA binding and maintenance of genome-wide DNA methylation. Cell Rep. 32: 107958.
8. Wang, Y., et al. 2021. Acetylation of Abelson interactor 1 at K416 regulates Actin cytoskeleton and smooth muscle contraction. FASEB J. 35: e21811.
9. Yuan, Y., et al. 2022. High salt activates p97 to reduce host antiviral immunity by restricting Viperin induction. EMBO Rep. 23: e53466.
10. Gao, Y., et al. 2022. Pyrroloquinoline quinone (PQQ) protects mitochondrial function of HEI-OC1 cells under premature senescence. NPJ Aging 8: 3.

RESEARCH USE

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

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