

pan-Acetyl (C4)-R: sc-8663-R

BACKGROUND

In the intact cell, DNA is closely associated with histones and other nuclear proteins to form chromatin. The remodeling of chromatin is believed to be a critical component of transcriptional regulation, and a major source of this remodeling is brought about by the acetylation of nucleosomal histones. Acetylation of lysine residues in the amino-terminal tail domain of histone results in an allosteric change in the nucleosomal conformation, and an increased accessibility of DNA to transcription factors. Conversely, the deacetylation of histones is associated with transcriptional silencing. Many non-histone proteins are also regulated by acetylation, including p53, growth hormone and tubulin. Pan-Acetyl antibodies are provided for the detection of a range of acetylated proteins.

REFERENCES

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- Braunstein, M., Rose, A.B., Holmes, S.G., Allis, C.D. and Broach, J.R. 1993. Transcriptional silencing in yeast is associated with reduced nucleosome acetylation. *Genes Dev.* 7: 592-604.
- Bauer, W.R., Hayes, J.J., White, J.H. and Wolffe, A.P. 1994. Nucleosome structural changes due to acetylation. *J. Mol. Biol.* 236: 685-690.
- Gu, W. and Roeder, R.G. 1997. Activation of p53 sequence-specific DNA binding by acetylation of the p53 C-terminal domain. *Cell* 90: 595-606.
- MacRae, T.H. 1997. Tubulin post-translational modifications—enzymes and their mechanisms of action. *Eur. J. Biochem.* 244: 265-278.
- Baumann G. 1999. Growth hormone heterogeneity in human pituitary and plasma. *Horm. Res.* 51: 2-6.

SOURCE

pan-Acetyl (C4)-R is an affinity purified rabbit polyclonal antibody raised against an acetylated peptide.

PRODUCT

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

Blocking peptide available for competition studies, sc-8663 P, (100 µg 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.

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.

APPLICATIONS

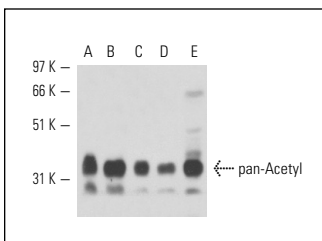
pan-Acetyl (C4)-R is recommended for detection of pan-Acetyl of broad species origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

pan-Acetyl (C4)-R is also recommended for detection of pan-Acetyl in additional species, including equine, canine, bovine, porcine and avian.

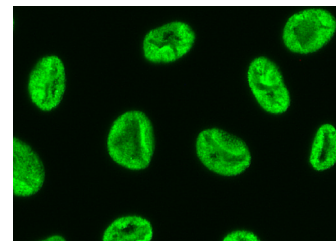
Positive Controls: HeLa nuclear extract: sc-2120, HeLa whole cell lysate: sc-2200 or NIH/3T3 whole cell lysate: sc-2210.

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).

DATA



pan-Acetyl (C4)-R: sc-8663-R. Western blot analysis of acetylated histone expression in HeLa (A), Na-Butyrate-treated HeLa (B), NIH/3T3 (C) and Na-Butyrate-treated NIH/3T3 (D) whole cell lysates and HeLa nuclear extract (E).



pan-Acetyl (C4)-R: sc-8663-R. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization.

SELECT PRODUCT CITATIONS

- Gozzini, A., et al. 2003. Butyrates, as a single drug, induce histone acetylation and granulocytic maturation: possible selectivity on core binding factor-acute myeloid leukemia blasts. *Cancer Res.* 63: 8955-8961.
- Krämer, O.H., et al. 2008. Mechanism for ubiquitylation of the leukemia fusion proteins AML1-ETO and PML-RAR α . *FASEB J.* 22: 1369-1379.
- Shiota, M., et al. 2010. P300/CBP-associated factor regulates Y-box binding protein-1 expression and promotes cancer cell growth, cancer invasion and drug resistance. *Cancer Sci.* 101: 1797-1806.
- Shiota, M., et al. 2010. Foxo3a expression and acetylation regulate cancer cell growth and sensitivity to cisplatin. *Cancer Sci.* 101: 1177-1185.