SANTA CRUZ BIOTECHNOLOGY, INC.

Rpd3 (yN-19): sc-6654

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Chromatin remodeling, thought to be a critical component of transcriptional regulation, is effected by the acetylation of nucleosomal histones. Acetylation 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. Gcn5 (also designated Ada4) has been identified as a yeast histone acetylase. This protein forms a complex with Ada2 and Ada3 (also designated Ngg1) which facilitate transcriptional activation. Rpd3 (also designated Sdi2) and Hda1 have been identified as histone deacetylases. Sin3 (also designated Rpd1, Gam2, Ume4 or Sdi1) is involved in the transcriptional repression of many genes. This protein binds to Rpd3 and is thought to function by recruiting Rpd3 to specific promoters.

REFERENCES

1. Marcus, G.A., Silverman, N., Berger, S.L., Horiuchi, J. and Guarente, L. 1994. Functional similarity and physical association between Gcn5 and Ada2: putative transcriptional adaptors. EMBO J. 13: 4807-4815.
2. Horiuchi, J., Silverman, N., Marcus, G.A. and Guarante, L. 1995. ADA3, a putative transcriptional adaptor, consists of two separable domains and interacts with Ada2 and Gcn5 in a trimeric complex. Mol. Cell. Biol. 15: 1203-1209.
3. Carmen, A.C., Rundlett, S.E. and Grunstein, M. 1996. Hda1 and Hda3 are components of a yeast histone deacetylase (Hda) complex. J. Biol. Chem. 271: 15837-15844.
4. Candau, R., Zhou, J.X., Allis, C.D. and Berger, S.L. 1997. Histone acetyltransferase activity and interaction with Ada2 are critical for Gcn5 function *in vivo*. EMBO J. 16: 555-565.
5. Kasten, M.M., Dorland, S. and Stillman, D.J. 1997. A large protein complex containing the yeast Sin3p and Rpd3p transcriptional regulators. Mol. Cell. Biol. 17: 4852-4858.
6. Kadosh, D. and Struhl, K. 1997. Repression by Ume6 involves recruitment of a complex containing Sin3 corepressor and Rpd3 histone deacetylase to target promoters. Cell 89: 365-371.
7. Pennisi, E. 1997. Opening the way to gene activity. Science 275: 155-156.

SOURCE

Rpd3 (yN-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Rpd3 of *Saccharomyces cerevisiae* origin.

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-6654 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

Rpd3 (yN-19) is recommended for detection of Rpd3 of *Saccharomyces cerevisiae* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: 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), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048.

SELECT PRODUCT CITATIONS

1. Arevalo-Rodríguez, M., et al. 2000. Cyclophilin A and Ess1 interact with and regulate silencing by the Sin3-Rpd3 histone deacetylase. EMBO J. 19: 3739-3749.
2. Rohde, J.R., et al. 2003. The tor pathway regulates gene expression by linking nutrient sensing to histone acetylation. Mol. Cell. Biol. 2: 629-635.
3. Schroder, M., et al. 2004. The unfolded protein response represses differentiation through the Rpd3-Sin3 histone deacetylase. EMBO J. 23: 2281-2292.
4. Yukawa, M., et al. 2009. The Rpd3/HDAC complex is present at the URS1 *cis*-element with hyperacetylated histone H3. Biosci. Biotechnol. Biochem. 73: 378-384.
5. Luo, H., et al. 2010. Colocalization of amanitin and a candidate toxin-processing prolyl oligopeptidase in Amanita basidiocarps. Eukaryotic Cell 9: 1891-1900.

STORAGE

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

PROTOCOLS

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