SANTA CRUZ BIOTECHNOLOGY, INC.

Rpd3 (G-9): sc-514160

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Chromatin remodeling, though 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 Sdi 2) 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., et al. 1994. Functional similarity and physical association between Gcn5 and Ada2: putative transcriptional adaptors. EMBO J. 13: 4807-4815.
2. Horiuchi, J., et al. 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., et al. 1996. Hda1 and Hda3 are components of a yeast histone deacetylase (Hda) complex. J. Biol. Chem. 271: 15837-15844.
4. Candau, R., et al. 1997. Histone acetyltransferase activity and interaction with Ada2 are critical for Gcn5 function *in vivo*. EMBO J. 16: 555-565.
5. Kasten, M.M., et al. 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 (G-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 78-95 near the N-terminus of Rpd3 of *Saccharomyces cerevisiae* origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Rpd3 (G-9) is available conjugated to agarose (sc-514160 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514160 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514160 PE), fluorescein (sc-514160 FITC), Alexa Fluor® 488 (sc-514160 AF488), Alexa Fluor® 546 (sc-514160 AF546), Alexa Fluor® 594 (sc-514160 AF594) or Alexa Fluor® 647 (sc-514160 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514160 AF680) or Alexa Fluor® 790 (sc-514160 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Rpd3 (G-9) is recommended for detection of Rpd3 of *Saccharomyces cerevisiae* origin by Western Blotting (starting dilution 1:100, 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).

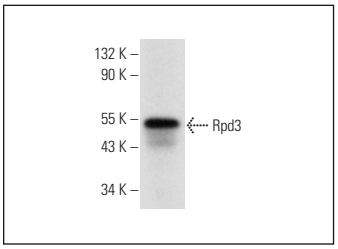
Molecular Weight of Rpd3: 63 kDa.

Positive Controls: *Saccharomyces cerevisiae* whole cell lysate or EGY48 whole cell lysate: sc-364775.

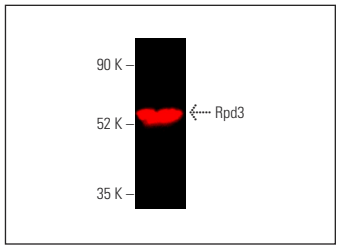
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Rpd3 (G-9): sc-514160. Western blot analysis of Rpd3 expression in *Saccharomyces cerevisiae* whole cell lysate.



Rpd3 (G-9): sc-514160. Near-Infrared western blot analysis of Rpd3 expression in EGY48 whole cell lysate. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgG_{2a} BP-CFL 790: sc-542740.

SELECT PRODUCT CITATIONS

1. Yu, Q., et al. 2022. Phosphorylation of Jhd2 by the Ras-cAMP-PKA(Tpk2) pathway regulates histone modifications and autophagy. Nat. Commun. 13: 5675.
2. Li, X., et al. 2023. The TORC1 activates Rpd3L complex to deacetylate Ino80 and H2A.Z and repress autophagy. Sci. Adv. 9: eade8312.

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.