SANTA CRUZ BIOTECHNOLOGY, INC.

Rpb7 (yK-19): sc-26311

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The Power to Question

BACKGROUND

Organisms respond to environmental stress by adopting changes in gene expression at the transcriptional level. Eukaryotic RNA polymerase II is composed of more than 10 polypeptide chains. Rpb4, a nonessential subunit of the core RNA polymerase II has a role in non-stress-specific transcription and in the regulation of stress response in yeast. Rpb4 affects expression of a small yet significant fraction of the genome under both stressful and normal conditions. Rpb4 plays a dual role in regulating two subpathways, suppressing the Rpb9 subpathway and facilitating the Rad26 subpathway. The C-terminal 24 amino acids of Rpb4 are specifically involved in activation. The Rpb4 and Rpb7 subunits of yeast RNA polymerase II form a heterodimeric complex essential for promoter-directed transcription initiation in a reconstituted system. Although Rpb7 is the interacting partner of Rpb4, they play independent roles in transcriptional regulation of genes. Rpb4 migrates as the fourth largest subunit with a molecular mass of 32 kDa in yeast RNA polymerase II.

REFERENCES

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2. Larkin, R.M., and Guilfoyle, T.J. 1998. Two small subunits in Arabidopsis RNA polymerase II are related to yeast Rpb4 and Rpb7 and interact with one another. J Biol Chem. 273: 5631-5637.
3. Pillai, B., Sampath, V., Sharma, N., and Sadhale, P. 2001. Rpb4, a non-essential subunit of core RNA polymerase II of *Saccharomyces cerevisiae* is important for activated transcription of a subset of genes. J Biol Chem. 276: 30641-30647.
4. Orlicky, S.M., Tran, P.T., Sayre, M.H., and Edwards, A.M. 2001. Dissociable Rpb4-Rpb7 subassembly of rna polymerase II binds to single-strand nucleic acid and mediates a post-recruitment step in transcription initiation. J Biol Chem. 276: 10097-10102.
5. Li, S., and Smerdon, M.J. 2002. Rpb4 and Rpb9 mediate subpathways of transcription-coupled DNA repair in *Saccharomyces cerevisiae.* Embo J. 21: 5921-5929.
6. Pillai, B., Verma, J., Abraham, A., Francis, P., Kumar, Y., Tatu, U., Brahmachari, S.K., and Sadhale, P.P. 2003. Whole genome expression profiles of yeast RNA polymerase II core subunit, Rpb4, in stress and non-stress conditions. J Biol Chem. 278: 3339-3346.

SOURCE

Rpb7 (yK-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Rpb7 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-26311 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Rpb7 (yK-19) is recommended for detection of Rpb7 of *Saccaromyces 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.

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.