



Rpb3 (yN-17): sc-15612

BACKGROUND

Eukaryotic RNA polymerase II is composed of more than 10 polypeptide chains. Of the four largest subunits, Rpb3 is the third-largest subunit of RNA polymerase II. Rpb3 is an essential single-copy gene that is tightly linked to HIS6 on chromosome IX. Rpb3 plays an essential role in subunit assembly because it interacts with at least four subunits (Rpb1 and Rpb2) and two medium-sized subunits (Rpb3 and Rpb5). Rpb3 and Rpb5 associate with each other to form binary complexes and these two subunits also bind to the two large subunits, Rpb1 and Rpb2, independently. Additionally, Rpb3 plays a key role in the assembly of core enzyme subunits since it constitutes a core sub-assembly consisting of Rpb2, Rpb3, and Rpb11. Although the Rpb5- and Rpb11-contact sites on Rpb3 overlap each other, both subunits are able to associate with Rpb3 simultaneously. The binding of Rpb5 stabilizes the Rpb3-Rpb11 heterodimer.

REFERENCES

1. Kolodzie, P. and Young, R.A. 1989. RNA polymerase II subunit Rpb3 is an essential component of the mRNA transcription apparatus. *Mol. Cell. Biol.* 9: 5387-5394.
2. Miyao, T., Yasui, K., Sakurai, H., Yamagishi, M., and Ishihama, A. 1996. Molecular assembly of RNA polymerase II from the fission yeast *Schizosaccharomyces pombe*: subunit-subunit contact network involving Rpb5. *Genes Cells* 1: 843-854.
3. Sakurai, H. and Ishihama, A. 1997. Gene organization and protein sequence of the small subunits of *Schizosaccharomyces pombe* RNA polymerase II. *Gene* 196: 165-174.
4. Yasui, K., Ishiguro, A., and Ishihama, A. 1998. Location of subunit-subunit contact sites on RNA polymerase II subunit 3 from the fission yeast *Schizosaccharomyces pombe*. *Biochemistry* 37: 5542-5548.
5. Ishiguro, A., Kimura, M., Yasui, K., Iwata, A., Ueda, S., and Ishihama, A. 1998. Two large subunits of the fission yeast RNA polymerase II provide platforms for the assembly of small subunits. *J. Mol. Biol.* 279: 703-712.

SOURCE

Rpb3 (yN-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Rpb3 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-15612 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.

APPLICATIONS

Rpb3 (yN-17) is recommended for detection of Rpb3 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.

PROTOCOLS

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