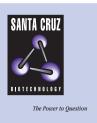
## SANTA CRUZ BIOTECHNOLOGY, INC.

# NAB4 (yE-17): sc-13932



BACKGROUND

Cleavage and polyadenylation of mRNA 3'ends in Saccharomyces cerevisiae requires several factors, one of which is cleavage factor I (CF I). CF I contains five subunits, Rna14, Rna15, Pcf11, Clp1, and Hrp1 (also designated NAB4 and CFIB). The nonsense-mediated mRNA decay (NMD) pathway regulated premature translation termination and degrades aberrant mRNAs. NAB4, a 73 kDa heterogeneous ribonucleoprotein, is a downstream sequence element (DSE)-binding factor that activates NMD. Mutations in NAB4 stabilize nonsense-containing transcripts without affecting the decay of wild type mRNAs. NAB4 binds specifically to a DSE-containing RNA and interacts with Upf1p, a component of a surveillance complex, which searches 3' of a nonsense condon for a DSE associated with RNA-binding proteins. Kap104p is a S. cerevisiae nuclear import receptor for both NAB2 and NAB4. NAB4 is post-translationally modified by methylation at arginine residues, which occurs prior to protein-RNA binding in the nucleus. Hmt1p methylates both Np13p and NAB4, which are shuttling hnRNPs involved in mRNA processing and export.

#### REFERENCES

- Kessler, M.M., Henry, M.F., Shen, E., Zhao, J., Gross, S., Silver, P.A., and Moore, C.L. 1997. Hrp1, a sequence-specific RNA-binding protein that shuttles between the nucleus and the cytoplasm, is required for mRNA 3'end formation in yeast. Genes Dev. 11: 2545-2556.
- Shen, E.C., Henry, M.F., Weiss, V.H., Valentini, S.R., Silver, P.A., and Lee, M.S. 1998. Arginine methylation facilitates the nuclear export of hnRNP proteins. Genes Dev. 12: 679-691.
- Lee, D.C. and Aitchison, J.D. 1999. Kap104p-mediated nuclear import. Nuclear localization signals in mRNA-binding proteins and the role of Ran and Rna. J. Biol. Chem. 274: 29031-29037.
- 4. Valentini, S.R., Weiss, V.H., and Silver, P.A. 1999. Arginine methylation and binding of Hrp1p to the efficiency element for mRNA 3'-end formation. RNA 5: 272-280.
- Komarnitsky, P., Cho, E.J., and Buratowski, S. 2000. Different phosphorylated forms of RNA polymease II and associated mRNA processing factors during transcription. Genes Dev. 14: 2452-2460.
- Gonzalez, C.I., Ruiz-Echevarria, M.J., Vasudevan, S., Henry, M.F., and Peltz, S.W. 2000. The yeast hnRNP like protein Hrp1/Nab4 marks a transcript for nonsense-mediated mRNA decay. Mol. Cell 5: 489-499.
- Gross, S. and Moore, C. 2001. Five subunits are required for reconstitution of the cleavage and polyadenylation activities of *Saccharomyces cerevisiae* cleavage factor I. Proc. Natl. Acad. Sci. USA 98: 6080-6085.

#### SOURCE

NAB4 (yE-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of NAB4 of *Saccharomyces cerevisiae* origin.

#### **STORAGE**

Store at 4° C, \*\*D0 NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

#### PRODUCT

Each vial contains 200  $\mu g$  lgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-13932 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### **APPLICATIONS**

NAB4 (yE-17) is recommended for detection of NAB4 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-2033 and Western Blotting Luminol Reagent: sc-2048.

#### **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.