

SNAPC 43 (h2): 293T Lysate: sc-175003

BACKGROUND

TATA box-binding protein (TBP) interactions with TBP-associated factors (TAFs) are required for the transcription of RNA polymerases. One particular TBP-TAF complex, snRNA-activating protein complex (SNAPC), is unusual in that it regulates basal transcription of both RNA polymerase II and III by binding specifically to a non-TATA box proximal sequence element (PSE). SNAPC consists of five subunits of varying size. SNAPC binds to Oct-1 and TBP, which are activators of snRNA and RNA polymerases, respectively. The POU domain of Oct-1 binds to SNAPC 190 and effectively recruits SNAPC to the PSE. The cooperative binding of SNAPC and Oct-1 to their respective sequence elements is mediated by a nucleosome positioned between the two sequence elements. SNAPC 19 mediates the assembly of the subunits to form a functional SNAPC transcription regulator. SNAPC 50 (also designated PTF β) contains two zinc finger motifs and binds to SNAPC 43 (also designated PTF γ) but not SNAPC 45 (PTF δ).

REFERENCES

1. Sadowski, C.L., Henry, R.W., Lobo, S.M. and Hernandez, N. 1993. Targeting TBP to a non-TATA box *cis*-regulatory element: a TBP-containing complex activates transcription from snRNA promoters through the PSE. *Genes Dev.* 7: 1535-1548.
2. Henry, R.W., Sadowski, C.L., Kobayashi, R. and Hernandez, N. 1995. A TBP-TAF complex required for transcription of human snRNA genes by RNA polymerase II and III. *Nature* 374: 653-666.
3. Sadowski, C.L., Henry, R.W., Kobayashi, R. and Hernandez, N. 1996. The SNAP 45 subunit of the small nuclear RNA (snRNA) activating protein complex is required for RNA polymerase II and III snRNA gene transcription and interacts with the TATA box-binding protein. *Proc. Natl. Acad. Sci. USA* 93: 4289-4293.
4. Henry, R.W., Ma, B., Sadowski, C.L., Kobayashi, R. and Hernandez, N. 1996. Cloning and characterization of SNAP 50, a subunit of the snRNA-activating protein complex SNAPC. *EMBO J.* 15: 7129-7136.
5. Ford, E. and Hernandez, N. 1997. Characterization of a trimeric complex containing Oct-1, SNAPC, and DNA. *J. Biol. Chem.* 272: 16048-16055.

CHROMOSOMAL LOCATION

Genetic locus: SNAPC1 (human) mapping to 14q23.2.

PRODUCT

SNAPC 43 (h2): 293T Lysate represents a lysate of human SNAPC 43 transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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

APPLICATIONS

SNAPC 43 (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive SNAPC 43 antibodies.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

SNAPC 43 (K-16): sc-20241 is recommended as a positive control antibody for Western Blot analysis of enhanced human SNAPC 43 expression in SNAPC 43 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

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.

RESEARCH USE

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