

# SNAPC 45 (N-17): sc-20243

## 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 5 subunits with molecular masses of 19, 43, 45, 50 and 190 kDa. 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 $\beta$ ) contains two zinc finger motifs and binds to SNAPC 43 (also designated PTF $\gamma$ ) but not SNAPC 45 (PTF $\delta$ ).

## REFERENCES

- Sadowski, C.L., et al. 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.
- Henry, R.W., et al. 1995. A TBP-TAF complex required for transcription of human snRNA genes by RNA polymerase II and III. *Nature* 374: 653-666.
- Sadowski, C.L., et al. 1996. The SNAP45 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.
- Henry, R.W., et al. 1996. Cloning and characterization of SNAP50, a subunit of the snRNA-activating protein complex SNAPC. *EMBO J.* 15: 7129-7136.
- Ford, E. and Hernandez, N. 1997. Characterization of a trimeric complex containing Oct-1, SNAPC, and DNA. *J. Biol. Chem.* 272: 16048-16055.
- Mittal, V. and Hernandez, N. 1997. Role for the amino-terminal region of human TBP in U6 snRNA transcription. *Science* 275: 1136-1140.
- Henry, R.W., et al. 1998. SNAP19 mediates the assembly of a functional core promoter complex (SNAPC) shared by RNA polymerases II and III. *Genes Dev.* 12: 2664-2672.

## CHROMOSOMAL LOCATION

Genetic locus: SNAPC2 (human) mapping to 19p13.2.

## SOURCE

SNAPC 45 (N-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of SNAPC 45 of human origin.

## PRODUCT

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

Blocking peptide available for competition studies, 20243 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

SNAPC 45 (N-17) is recommended for detection of SNAPC 45 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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).

SNAPC 45 (N-17) is also recommended for detection of SNAPC 45 in additional species, including canine.

Suitable for use as control antibody for SNAPC 45 siRNA (h): sc-38402, SNAPC 45 shRNA Plasmid (h): sc-38402-SH and SNAPC 45 shRNA (h) Lentiviral Particles: sc-38402-V.

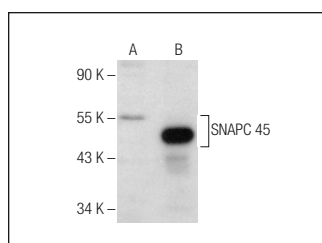
Molecular Weight of SNAPC 45: 45 kDa.

Positive Controls: SNAPC 45 (h): 293T Lysate: sc-369765 or Hep G2 cell lysate: sc-2227.

## 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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



SNAPC 45 (N-17): sc-20243. Western blot analysis of SNAPC 45 expression in non-transfected: sc-117752 (A) and human SNAPC 45 transfected: sc-369765 (B) 293T whole cell lysates.

## 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.