

# NPAT (H-300): sc-67007

## BACKGROUND

The nuclear protein, ataxia telangiectasia locus (NPAT), an essential downstream component of the cyclin E/Cdk2 signaling pathway, acts as a critical regulator for S phase entry, histone gene expression and Cajal body maintenance in somatic cells. This protein was originally identified by its chromosomal location, 11q22.3, and its proximity to the ATM gene, which is responsible for the autosomal recessive disease ataxia telangiectasia (AT). The NPAT protein sequence is strongly conserved in eukaryotes and its expression is ubiquitous. The C-terminal half of the NPAT protein contains multiple elements required for induction of S phase, while the N-terminal half appears to be crucial for the activation of Histone H4 and H2B. NPAT contains several Cdk2 phosphorylation sites, but they do not appear to affect protein function.

## REFERENCES

1. Imai, T., et al. 1996. Identification and characterization of a new gene physically linked to the ATM gene. *Genome Res.* 6: 439-447.
2. Ma, T., et al. 2000. Cell cycle-regulated phosphorylation of p220(NPAT) by cyclin E/Cdk2 in Cajal bodies promotes histone gene transcription. *Genes Dev.* 14: 2298-2313.
3. Sagara, M., et al. 2002. Characterization of functional regions for nuclear localization of NPAT. *J. Biochem.* 132: 875-879.

## CHROMOSOMAL LOCATION

Genetic locus: NPAT (human) mapping to 11q22.3; Npat (mouse) mapping to 9 A5.3.

## SOURCE

NPAT (H-300) is a rabbit polyclonal antibody raised against amino acids 1091-1390 mapping near the C-terminus of NPAT of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

NPAT (H-300) is recommended for detection of NPAT of human and, to a lesser extent, mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

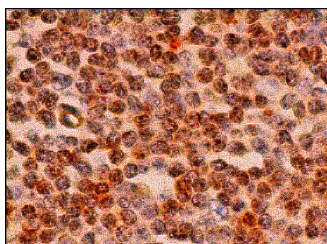
Suitable for use as control antibody for NPAT siRNA (h): sc-44351, NPAT siRNA (m): sc-44782, NPAT shRNA Plasmid (h): sc-44351-SH, NPAT shRNA Plasmid (m): sc-44782-SH, NPAT shRNA (h) Lentiviral Particles: sc-44351-V and NPAT shRNA (m) Lentiviral Particles: sc-44782-V.

Molecular Weight of NPAT: 212 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

## DATA



NPAT (H-300): sc-67007. Immunoperoxidase staining of formalin fixed, paraffin-embedded human tonsil tissue showing nuclear staining of cells in non-germinal centers.

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.


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Try **NPAT (27): sc-136007**, our highly recommended monoclonal alternative to NPAT (H-300).