

# ATRIP (N-19): sc-33410

## BACKGROUND

DNA damage or incomplete replication of DNA results in the inhibition of cell cycle progression at the G<sub>1</sub> to S or the G<sub>2</sub> to M phase transition by conserved regulatory mechanisms known as cell cycle checkpoints. Checkpoint proteins include Rad17, which is involved in regulating cell cycle progression at the G<sub>1</sub> checkpoint, as well as Chk1, Chk2, Rad1, Rad9 and Hus1, which are involved in regulating cell cycle arrest at the G<sub>2</sub> checkpoint. In response to DNA damage, ATM and ATR kinases are important for cell cycle checkpoint response signalling. ATR-interacting protein (ATRIP), also designated ATM and Rad3-related-interacting protein, is required for checkpoint signaling after DNA damage. It is also important for ATR expression, which regulates DNA replication and damage checkpoint responses. ATRIP is a ubiquitously expressed protein that can form heterodimers with ATR. After dimerization they bind the RPA complex and are recruited to single stranded DNA. ATRIP is a nuclear protein that may also play a role in protein stabilization.

## REFERENCES

1. Cortez, D., Guntuku, S., Qin, J. and Elledge, S.J. 2001. ATR and ATRIP: partners in checkpoint signaling. *Science* 294: 1713-1716.
2. Zou, L. and Elledge, S.J. 2003. Sensing DNA damage through ATRIP recognition of RPA-ssDNA complexes. *Science* 300: 1542-1548.
3. Ball, H.L. and Cortez, D. 2005. ATRIP oligomerization is required for ATR-dependent checkpoint signaling. *J. Biol. Chem.* 280: 31390-31396.
4. Kim, S.M., Kumagai, A., Lee, J. and Dunphy, W.G. 2005. Phosphorylation of Chk1 by ATM- and Rad3-related (ATR) in *Xenopus* egg extracts requires binding of ATRIP to ATR but not the stable DNA-binding. *J. Biol. Chem.* 280: 38355-38364.
5. Itakura, E., Sawada, I. and Matsuura, A. 2005. Dimerization of the ATRIP protein through the coiled-coil motif and its implication to the maintenance of stalled replication forks. *Mol. Biol. Cell* 16: 5551-5562.
6. SWISS-PROT/TrEMBL (Q8WXE1). World Wide Web URL: <http://www.expasy.ch/sprot/sprot-top.html>

## CHROMOSOMAL LOCATION

Genetic locus: ATRIP (human) mapping to 3p21.31.

## SOURCE

ATRIP (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of ATR-Interacting Protein 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.

Blocking peptide available for competition studies, sc-33410 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.

## APPLICATIONS

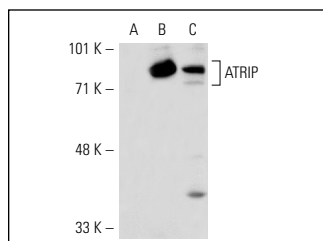
ATRIP (N-19) is recommended for detection of ATRIP of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (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 ATRIP siRNA (h): sc-44800, ATRIP shRNA Plasmid (h): sc-44800-SH and ATRIP shRNA (h) Lentiviral Particles: sc-44800-V.

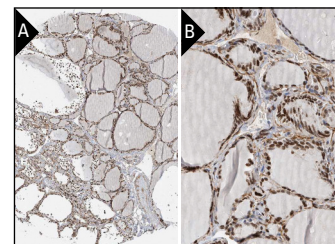
Molecular Weight of ATRIP: 86 kDa.

Positive Controls: ATRIP (h): 293 Lysate: sc-112949, MCF7 nuclear extract: sc-2149 or THP-1 nuclear extract: sc-24963.

## DATA



ATRIP (N-19): sc-33410. Western blot analysis of ATRIP expression in non-transfected 293: sc-110760 (A) and human ATRIP transfected 293: sc-112949 (B) whole cell lysates and MCF7 nuclear extract (C).



ATRIP (N-19): sc-33410. Immunoperoxidase staining of formalin fixed, paraffin-embedded human thyroid gland tissue showing nuclear staining of glandular cells in low (A) and high (B) resolution. Kindly provided by The Swedish Human Protein Atlas (HPA) program.

## 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.



Try **ATRIP (F-7): sc-365383**, our highly recommended monoclonal alternative to ATRIP (N-19).