

WHIP (m): 293T Lysate: sc-124643

BACKGROUND

Werner's syndrome is an inherited, autosomal recessive disorder that is characterized by premature aging and commonly results in cancer. WHIP, also known as WRNIP1 (Werner helicase-interacting protein 1) is a ubiquitously expressed member of the AAA ATPase family that is involved in the regulation of DNA synthesis. Localized to the nucleus, WHIP acts as a modulator for initiation events during DNA polymerase-mediated DNA synthesis and, through its ATPase activity, can detect DNA damage or arrested replication forks. WHIP is found in granular structures within the nucleus, where it interacts with the N-terminal domain of WRN, the protein product of the gene responsible for Werner's syndrome. Due to its close association with WRN, WHIP is thought to be involved in the aging process and thus may play a role in the development of Werner's syndrome. Four isoforms of WHIP are produced due to alternative splicing events.

REFERENCES

1. Branzei, D., Hayashi, T., Suzuki, H., Masuko, T., Onoda, F., Heo, S.J., Ikeda, H., Shimamoto, A., Furuichi, Y., Seki, M. and Enomoto, T. 2001. A novel protein interacts with the Werner's syndrome gene product physically and functionally. *J. Biol. Chem.* 276: 20364-20369.
2. Shen, J. and Loeb, L.A. 2001. Unwinding the molecular basis of the Werner syndrome. *Mech. Ageing Dev.* 122: 921-944.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 608196. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Comai, L. and Li, B. 2004. The Werner syndrome protein at the crossroads of DNA repair and apoptosis. *Mech. Ageing Dev.* 125: 521-528.
5. Tsurimoto, T., Shinozaki, A., Yano, M., Seki, M. and Enomoto, T. 2005. Human Werner helicase interacting protein 1 (WRNIP1) functions as a novel modulator for DNA polymerase δ . *Genes Cells* 10: 13-22.
6. Kawabe, Y., Seki, M., Yoshimura, A., Nishino, K., Hayashi, T., Takeuchi, T., Iguchi, S., Kusa, Y., Ohtsuki, M., Tsuyama, T., Imamura, O., Matsumoto, T., Furuichi, Y., Tada, S. and Enomoto, T. 2006. Analyses of the interaction of WRNIP1 with Werner syndrome protein (WRN) *in vitro* and in the cell. *DNA Repair* 5: 816-828.
7. Yoshimura, A., Seki, M., Hayashi, T., Kusa, Y., Tada, S., Ishii, Y. and Enomoto, T. 2006. Functional relationships between Rad18 and WRNIP1 in vertebrate cells. *Biol. Pharm. Bull.* 29: 2192-2196.
8. Bish, R.A. and Myers, M.P. 2007. Werner helicase-interacting protein 1 binds polyubiquitin via its zinc finger domain. *J. Biol. Chem.* 282: 23184-23193.

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 for detailed protocols and support products.

CHROMOSOMAL LOCATION

Genetic locus: Wrnp1 (mouse) mapping to 13 A3.2.

PRODUCT

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

APPLICATIONS

WHIP (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive WHIP antibodies. Recommended use: 10-20 μ l per lane.

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

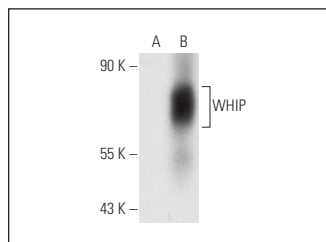
WHIP (A-7): sc-271637 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse WHIP expression in WHIP transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:

1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



WHIP (A-7): sc-271637. Western blot analysis of WHIP expression in non-transfected: sc-117752 (A) and mouse WHIP transfected: sc-124643 (B) 293T whole cell lysates.

RESEARCH USE

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