

WTAP (C-12): sc-166931

BACKGROUND

Wilms' tumor (WT) is an embryonal malignancy of the kidney that affects 1 in 10,000 infants and is observed in both sporadic and inherited forms. The Wilms' tumor protein (WT1) binds the DNA sequence GCGGGGCG, a recognition element common to the early growth response (Egr) family of Zn²⁺ finger transcriptional activators and functions as a transcriptional repressor. WTAP (Wilms tumor 1-associating protein) is a ubiquitously expressed nuclear protein that interacts with WT1 and may be involved in regulating mRNA splicing. WTAP is found in nuclear speckles, where it regulates the G₂/M cell cycle transition by binding to the 3' UTR of cyclin A2, thus enhancing its stability. Additionally, WTAP inhibits expression of WT1 target genes and is able to impair the ability of WT1 to bind DNA. Two isoforms of WTAP exist due to alternative splicing events.

REFERENCES

1. Brnzei, D., et al. 2001. A novel protein interacts with the Werner's syndrome gene product physically and functionally. *J. Biol. Chem.* 276: 20364-20369.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 605442. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
3. Utsch, B., et al. 2003. Exclusion of WTAP and HOXA13 as candidate genes for isolated hypospadias. *Scand. J. Urol. Nephrol.* 37: 498-501.
4. Chen, B.F., et al. 2004. Immunohistochemical expression of Wilms' tumor 1 protein in nephroblastoma. *J. Chin. Med. Assoc.* 67: 506-510.
5. Horiuchi, K., et al. 2006. Wilms' tumor 1-associating protein regulates G₂/M transition through stabilization of cyclin A2 mRNA. *Proc. Natl. Acad. Sci. USA* 103: 17278-17283.
6. Rong, Y., et al. 2006. Wilms' tumor 1 and signal transducers and activators of transcription 3 synergistically promote cell proliferation: a possible mechanism in sporadic Wilms' tumor. *Cancer Res.* 66: 8049-8057.
7. Small, T.W., et al. 2006. Wilms' tumor 1-associating protein regulates the proliferation of vascular smooth muscle cells. *Circ. Res.* 99: 1338-1346.

CHROMOSOMAL LOCATION

Genetic locus: WTAP (human) mapping to 6q25.3; Wtap (mouse) mapping to 17 A1.

SOURCE

WTAP (C-12) is a mouse monoclonal antibody raised against amino acids 91-201 mapping near the C-terminus of WTAP of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

WTAP (C-12) is recommended for detection of WTAP of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for WTAP siRNA (h): sc-63224, WTAP siRNA (m): sc-63225, WTAP shRNA Plasmid (h): sc-63224-SH, WTAP shRNA Plasmid (m): sc-63225-SH, WTAP shRNA (h) Lentiviral Particles: sc-63224-V and WTAP shRNA (m) Lentiviral Particles: sc-63225-V.

Molecular Weight of WTAP: 47 kDa.

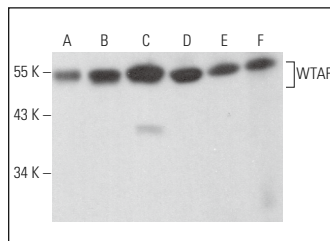
Positive Controls: HEL 92.1.7 cell lysate: sc-2270, Jurkat whole cell lysate: sc-2204 or CCRF-CEM cell lysate: sc-2225.

RECOMMENDED SUPPORT REAGENTS

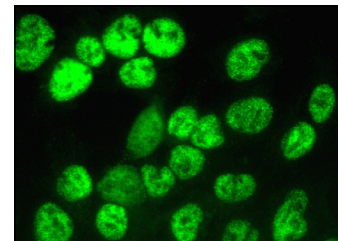
To ensure optimal results, the following support reagents are recommended:

- 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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.
- 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).
- 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



WTAP (C-12): sc-166931. Western blot analysis of WTAP expression in Jurkat (A), CCRF-CEM (B), HEL 92.1.7 (C), TK-1 (D) and c4 (E) whole cell lysates and rat thymus tissue extract (F).



WTAP (C-12): sc-166931. Immunofluorescence staining of formalin-fixed Hep G2 cells showing nuclear localization.

RESEARCH USE

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

PROTOCOLS

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