SANTA CRUZ BIOTECHNOLOGY, INC.

WAPL (E-18): sc-82120



BACKGROUND

WAPL (wings apart-like), also known as WAPAL or FOE, is a 1,190 amino acid protein that contains one WAPL domain and is expressed as 2 alternatively spliced isoforms, one of which localizes to the nucleus. Expressed in an isoformdependent manner in heart, skeletal muscle and uterine cervix tumor tissue, WAPL is involved in sister-chromatid adhesion and overall cell growth, specifically playing a role in the development and metastasis of cancerous tissue. The gene encoding WAPL maps to human chromosome 10, which houses over 1,200 genes and comprises nearly 4.5% of the human genome. Defects in some of the genes that map to chromosome 10 are associated with Charcot-Marie Tooth disease, Jackson-Weiss syndrome, Usher syndrome, nonsyndromatic deafness, Wolman's syndrome, Cowden syndrome, multiple endocrine neoplasia type 2 and porphyria.

REFERENCES

- Oikawa, K., Ohbayashi, T., Kiyono, T., Nishi, H., Isaka, K., Umezawa, A., Kuroda, M. and Mukai, K. 2004. Expression of a novel human gene, human wings apart-like (hWAPL), is associated with cervical carcinogenesis and tumor progression. Cancer Res. 64: 3545-3549.
- 2. Kwiatkowski, B.A., Ragoczy, T., Ehly, J. and Schubach, W.H. 2004. Identification and cloning of a novel chromatin-associated protein partner of Epstein-Barr nuclear protein 2. Exp. Cell Res. 300: 223-233.
- Kuroda, M., Oikawa, K., Ohbayashi, T., Yoshida, K., Yamada, K., Mimura, J., Matsuda, Y., Fujii-Kuriyama, Y. and Mukai, K. 2005. A dioxin sensitive gene, mammalian WAPL, is implicated in spermatogenesis. FEBS Lett. 579: 167-172.
- Kueng, S., Hegemann, B., Peters, B.H., Lipp, J.J., Schleiffer, A., Mechtler, K. and Peters, J.M. 2006. Wapl controls the dynamic association of cohesin with chromatin. Cell 127: 955-967.
- Gandhi, R., Gillespie, P.J. and Hirano, T. 2006. Human Wapl is a cohesinbinding protein that promotes sister-chromatid resolution in mitotic prophase. Curr. Biol. 16: 2406-2417.
- Ohbayashi, T., Oikawa, K., Yamada, K., Nishida-Umehara, C., Matsuda, Y., Satoh, H., Mukai, H., Mukai, K. and Kuroda, M. 2007. Unscheduled overexpression of human WAPL promotes chromosomal instability. Biochem. Biophys. Res. Commun. 356: 699-704.
- Oikawa, K., Akiyoshi, A., Tanaka, M., Takanashi, M., Nishi, H., Isaka, K., Kiseki, H., Idei, T., Tsukahara, Y., Hashimura, N., Mukai, K. and Kuroda, M. 2008. Expression of various types of alternatively spliced WAPL transcripts in human cervical epithelia. Gene 423: 57-62.
- Ben-Shahar, T.R., Heeger, S., Lehane, C., East, P., Flynn, H., Skehel, M. and Uhlmann, F. 2008. Eco1-dependent cohesin acetylation during establishment of sister chromatid cohesion. Science 321: 563-566.
- 9. Online Mendelian Inheritance in Man, OMIM™. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 610754. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

RESEARCH USE

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

CHROMOSOMAL LOCATION

Genetic locus: WAPAL (human) mapping to 10q23.2; Wapal (mouse) mapping to 14 B.

SOURCE

WAPL (E-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of WAPL of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-82120 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

WAPL (E-18) is recommended for detection of WAPL of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

WAPL (E-18) is also recommended for detection of WAPL in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for WAPL siRNA (h): sc-76910, WAPL siRNA (m): sc-76911, WAPL shRNA Plasmid (h): sc-76910-SH, WAPL shRNA Plasmid (m): sc-76911-SH, WAPL shRNA (h) Lentiviral Particles: sc-76910-V and WAPL shRNA (m) Lentiviral Particles: sc-76911-V.

Molecular Weight of WAPL: 140 kDa.

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) Immunofluo-rescence: 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.

STORAGE

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

PROTOCOLS

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