

# ZWINT (K-19): sc-66698



The Power to Question

## BACKGROUND

ZWINT (ZW10 interactor) also known as KNTC2AP or HZwint-1 is a 277 amino acid protein that is involved in kinetochore function. Localized to the cytoplasm during interphase and to kinetochores from late prophase to anaphase, ZWINT interacts with ZW10 (Zeste White 10) and functions to regulate the association between ZW10 and kinetochores. Additionally, ZWINT is part of a kinetochore complex composed of proteins such as MIS12 (MIND kinetochore complex component) and PMF-1 (polyamine-modulated factor 1) that work in concert to ensure proper kinetochore formation and spindle checkpoint activity. Defects in the gene encoding ZWINT are associated with the pathogenesis of Roberts syndrome, an autosomal recessive disorder characterized by growth retardation due to premature chromosome separation.

## REFERENCES

1. Starr, D.A., Saffery, R., Li, Z., Simpson, A.E., Choo, K.H., Yen, T.J. and Goldberg, M.L. 2000. HZWINT-1, a novel human kinetochore component that interacts with HZW10. *J. Cell Sci.* 113: 1939-1950.
2. Wang, H., Hu, X., Ding, X., Dou, Z., Yang, Z., Shaw, A.W., Teng, M., Cleveland, D.W., Goldberg, M.L., Niu, L. and Yao, X. 2004. Human ZWINT-1 specifies localization of Zeste White 10 to kinetochores and is essential for mitotic checkpoint signaling. *J. Biol. Chem.* 279: 54590-54598.
3. Obuse, C., Iwasaki, O., Kiyomitsu, T., Goshima, G., Toyoda, Y. and Yanagida, M. 2004. A conserved Mis12 centromere complex is linked to heterochromatic HP1 and outer kinetochore protein ZWINT-1. *Nat. Cell Biol.* 6: 1135-1141.
4. Musio, A., Mariani, T., Montagna, C., Zambroni, D., Ascoli, C., Ried, T. and Vezoni, P. 2004. Recapitulation of the Roberts syndrome cellular phenotype by inhibition of INCENP, ZWINT-1 and ZW10 genes. *Gene* 331: 33-40.
5. Hirose, H., Arasaki, K., Dohmae, N., Takio, K., Hatsuzawa, K., Nagahama, M., Tani, K., Yamamoto, A., Tohyama, M. and Tagaya, M. 2004. Implication of ZW10 in membrane trafficking between the endoplasmic reticulum and Golgi. *EMBO J.* 23: 1267-1278.
6. Emanuele, M.J., McClelland, M.L., Satinover, D.L. and Stukenberg, P.T. 2005. Measuring the stoichiometry and physical interactions between components elucidates the architecture of the vertebrate kinetochore. *Mol. Biol. Cell* 16: 4882-4892.
7. Kops, G.J., Kim, Y., Weaver, B.A., Mao, Y., McLeod, I., Yates, J.R., 3rd, Tagaya, M. and Cleveland, D.W. 2005. ZW10 links mitotic checkpoint signaling to the structural kinetochore. *J. Cell Biol.* 169: 49-60.
8. Lin, Y.T., Chen, Y., Wu, G. and Lee, W.H. 2006. Hec1 sequentially recruits ZWINT-1 and ZW10 to kinetochores for faithful chromosome segregation and spindle checkpoint control. *Oncogene* 25: 6901-6914.

## SOURCE

ZWINT (K-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ZWINT of rat 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-66698 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

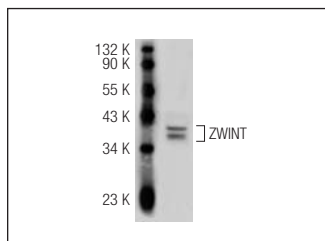
ZWINT (K-19) is recommended for detection of ZWINT of rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of ZWINT: 34 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: 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.

## DATA



ZWINT (K-19): sc-66698. Western blot analysis of ZWINT expression in PC-12 whole cell lysate.

## 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.