

# ZW10 (L-20): sc-66692

## BACKGROUND

ZW10 is the human homolog of the *Drosophila melanogaster* Zw10 protein and is involved in proper chromosome segregation and kinetochore function during cell division. An essential component of the mitotic checkpoint, ZW10 binds to centromeres during prophase and anaphase and to kinetochore microtubules during metaphase, thereby preventing the cell from prematurely exiting mitosis. ZW10 localization varies throughout the cell cycle, beginning in the cytoplasm during interphase, then moving to the kinetochore and spindle midzone during metaphase and late anaphase, respectively. A widely expressed protein, ZW10 is also involved in membrane trafficking between the Golgi and the endoplasmic reticulum (ER) via interaction with the SNARE complex. Both overexpression and silencing of ZW10 disrupts the ER-Golgi transport system, as well as the morphology of the ER-Golgi intermediate compartment. This suggests that ZW10 plays a critical role in proper inter-compartmental protein transport.

## REFERENCES

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2. Scaërou, F., et al. 2001. The ZW10 and Rough Deal checkpoint proteins function together in a large, evolutionarily conserved complex targeted to the kinetochore. *J. Cell Sci.* 114: 3103-3114.
3. Hirose, H., et al. 2004. Implication of ZW10 in membrane trafficking between the endoplasmic reticulum and Golgi. *EMBO J.* 23: 1267-1278.
4. Kops, G.J., et al. 2005. ZW10 links mitotic checkpoint signaling to the structural kinetochore. *J. Cell Biol.* 169: 49-60.
5. Varma, D., et al. 2006. Role of the kinetochore/cell cycle checkpoint protein ZW10 in interphase cytoplasmic Dynein function. *J. Cell Biol.* 172: 655-662.
6. Arasaki, K., et al. 2006. RINT-1 regulates the localization and entry of ZW10 to the syntaxin 18 complex. *Mol. Biol. Cell* 17: 2780-2788.
7. Lin, Y.T., et al. 2006. Hec1 sequentially recruits Zwint-1 and ZW10 to kinetochores for faithful chromosome segregation and spindle checkpoint control. *Oncogene* 25: 6901-6914.
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## CHROMOSOMAL LOCATION

Genetic locus: ZW10 (human) mapping to 11q23.2; Zw10 (mouse) mapping to 9 B.

## SOURCE

ZW10 (L-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ZW10 of human origin.

## STORAGE

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

## 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-66692 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

ZW10 (L-20) is recommended for detection of ZW10 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).

ZW10 (L-20) is also recommended for detection of ZW10 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for ZW10 siRNA (h): sc-63259, ZW10 siRNA (m): sc-63260, ZW10 shRNA Plasmid (h): sc-63259-SH, ZW10 shRNA Plasmid (m): sc-63260-SH, ZW10 shRNA (h) Lentiviral Particles: sc-63259-V and ZW10 shRNA (m) Lentiviral Particles: sc-63260-V.

Molecular Weight of ZW10: 85 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) 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.

## 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.