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ZWINT Antibody (Center)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP6686c

Product Information

Application	WB, IHC-P, FC, E
Primary Accession	O95229
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB19982
Calculated MW	31293
Antigen Region	59-88

Additional Information

Gene ID	11130
Other Names	ZW10 interactor, ZW10-interacting protein 1, Zwint-1, ZWINT
Target/Specificity	This ZWINT antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 59-88 amino acids from the Central region of human ZWINT.
Dilution	WB~~1:1000 IHC-P~~1:100~500 FC~~1:10~50 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	ZWINT Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	ZWINT
Function	Acts as a component of the outer kinetochore KNL1 complex that serves as a docking point for spindle assembly checkpoint components and mediates microtubule-kinetochore interactions (PubMed:15094189, PubMed:15485811, PubMed:15824131, PubMed:16732327, PubMed:24530301,

PubMed:27881301, PubMed:38459127, PubMed:38459128). Kinetochores, consisting of a centromere-associated inner segment and a microtubule-contacting outer segment, play a crucial role in chromosome segregation by mediating the physical connection between centromeric DNA and spindle microtubules (PubMed:15094189, PubMed:15485811, PubMed:16732327). The outer kinetochore is made up of the ten-subunit KMN network, comprising the MIS12, NDC80 and KNL1 complexes, and auxiliary microtubule-associated components; together they connect the outer kinetochore with the inner kinetochore, bind microtubules, and mediate interactions with mitotic checkpoint proteins that delay anaphase until chromosomes are bioriented on the spindle (PubMed:15094189, PubMed:15485811, PubMed:15824131, PubMed:16732327, PubMed:24530301, PubMed:38459127, PubMed:38459128). Targets the RZZ complex to the kinetochore at prometaphase (PubMed:15485811). Recruits MAD2L1 to the kinetochore, but is not required for BUB1B localization (By similarity). In addition to orienting mitotic chromosomes, it is also essential for alignment of homologous chromosomes during meiotic metaphase I (By similarity). In meiosis I, required to activate the spindle assembly checkpoint at unattached kinetochores to correct erroneous kinetochore-microtubule attachments (PubMed:15485811).

Cellular Location

Nucleus. Chromosome, centromere, kinetochore Note=Localizes to kinetochores from late prophase to anaphase (PubMed:15502821, PubMed:27881301). Localizes to kinetochores both during mitosis and meiosis (By similarity) {ECO:0000250|UniProtKB:Q9CQU5, ECO:0000269|PubMed:15502821, ECO:0000269|PubMed:27881301}

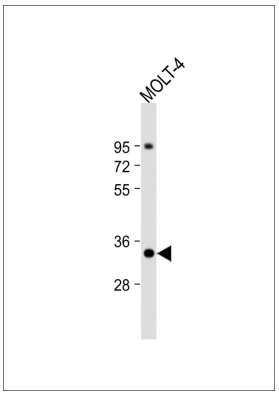
Background

ZWINT is clearly involved in kinetochore function although an exact role is not known. It interacts with ZW10, another kinetochore protein, possibly regulating the association between ZW10 and kinetochores. The protein localizes to prophase kinetochores before ZW10 does and it remains detectable on the kinetochore until late anaphase. It has a uniform distribution in the cytoplasm of interphase cells.

References

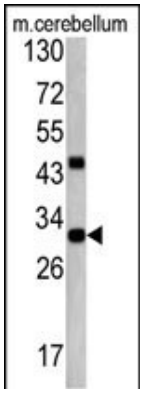
Famulski,J.K., J. Cell Biol. 180 (3), 507-520 (2008) Kops,G.J., J. Cell Biol. 169 (1), 49-60 (2005) Wang,H., J. Biol. Chem. 279 (52), 54590-54598 (2004)

Images

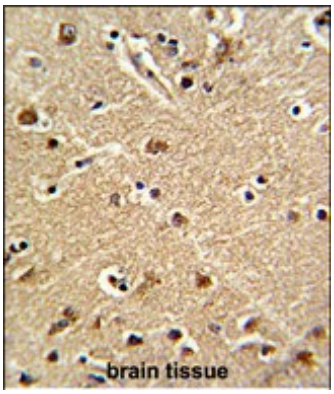


Anti-ZWINT Antibody (Center) at 1:1000 dilution + MOLT-4 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 31 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

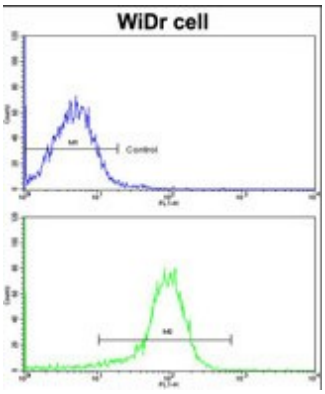
Western blot analysis of ZWINT antibody (Center) (Cat. #AP6686c) in mouse cerebellum tissue lysates



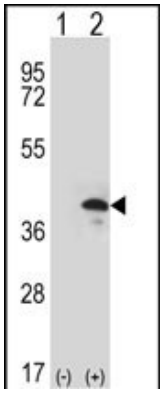
(35ug/lane). ZWINT (arrow) was detected using the purified Pab.



Formalin-fixed and paraffin-embedded human brain tissue reacted with ZWINT Antibody (Center), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.



Flow cytometric analysis of widr cells using ZWINT Antibody (Center)(bottom histogram) compared to a negative control cell (top histogram). FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.



Western blot analysis of ZWINT (arrow) using rabbit polyclonal ZWINT Antibody (Center) (Cat. #AP6686c). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected (Lane 2) with the ZWINT gene.

Citations

- Overexpression of Zwint predicts poor prognosis and promotes the proliferation of hepatocellular carcinoma by regulating cell-cycle-related proteins.