SANTA CRUZ BIOTECHNOLOGY, INC.

TPX2 (18D5): sc-53775

BACKGROUND

TPX2 (targeting protein for Xklp2) is a microtubule-associated protein involved in targeting the motor protein Xklp2 to microtubules. Ran-GTP activates TPX2 for the chromatin-induced microbutule assembly during M phase. Aurora-A kinase associates with TPX2 at the spindle apparatus and may regulate TPX2 via phosphorylation during the spindle assembly. TPX2 appears to play a structural role in spindle formation. TPX2 activates Eg2 in a microtubule-dependent manner by stimulating the phosphorylation and kinase activity of Eg2. TPX2 is inactivated by binding to importin α, a nuclear import factor. Finally, the suppression of TPX2 with RNA interference causes defects in microtubule organization during mitosis.

REFERENCES

1. Wittmann, T., et al. 1998. Localization of the kinesin-like protein Xklp2 to spindle poles requires a leucine zipper, a microtubule-associated protein, and Dynein. J. Cell Biol. 143: 673-685.
2. Gruss, O.J., et al. 2001. Ran induces spindle assembly by reversing the inhibitory effect of importin α on TPX2 activity. Cell 104: 83-93.
3. Kufer, T.A., et al. 2002. Human TPX2 is required for targeting Aurora-A kinase to the spindle. J. Cell Biol. 158: 617-623.
4. Garrett, S., et al. 2002. hTPX2 is required for normal spindle morphology and centrosome integrity during vertebrate cell division. Curr. Biol. 12: 2055-2059.
5. Gruss, O.J., et al. 2002. Chromosome-induced microtubule assembly mediated by TPX2 is required for spindle formation in HeLa cells. Nat. Cell Biol. 4: 871-879.
6. Tsai, M.Y., et al. 2003. A Ran signalling pathway mediated by the mitotic kinase Aurora A in spindle assembly. Nat. Cell Biol. 5: 242-248.

CHROMOSOMAL LOCATION

Genetic locus: TPX2 (human) mapping to 20q11.21.

SOURCE

TPX2 (18D5) is a mouse monoclonal antibody raised against amino acids 1-220 of TPX2 of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 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.

PROTOCOLS

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

APPLICATIONS

TPX2 (18D5) is recommended for detection of TPX2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

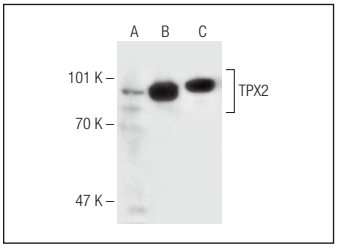
Suitable for use as control antibody for TPX2 siRNA (h): sc-37653, TPX2 shRNA Plasmid (h): sc-37653-SH and TPX2 shRNA (h) Lentiviral Particles: sc-37653-V.

Molecular Weight (predicted) of TPX2: 86 kDa.

Molecular Weight (observed) of TPX2: 86/100 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, K-562 whole cell lysate: sc-2203 or Jurkat whole cell lysate: sc-2204.

DATA



TPX2 (18D5): sc-53775. Western blot analysis of TPX2 expression in HeLa (**A**), K-562 (**B**) and Jurkat (**C**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Stolz, A., et al. 2010. The CHK2-BRCA1 tumour suppressor pathway ensures chromosomal stability in human somatic cells. Nat. Cell Biol. 12: 492-499.
2. Ertych, N., et al. 2014. Increased microtubule assembly rates influence chromosomal instability in colorectal cancer cells. Nat. Cell Biol. 16: 779-791.
3. Stolz, A., et al. 2015. A phenotypic screen identifies microtubule plus end assembly regulators that can function in mitotic spindle orientation. Cell Cycle 14: 827-837.

RESEARCH USE

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