

TPX2 (K-14): sc-26277

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 microtubule 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; Tpx2 (mouse) mapping to 2 H1.

SOURCE

TPX2 (K-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of TPX2 of rat origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-26277 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

TPX2 (K-14) is recommended for detection of TPX2 of mouse, rat and, to a lesser extent, human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

Suitable for use as control antibody for TPX2 siRNA (h): sc-37653, TPX2 siRNA (m): sc-37654, TPX2 shRNA Plasmid (h): sc-37653-SH, TPX2 shRNA Plasmid (m): sc-37654-SH, TPX2 shRNA (h) Lentiviral Particles: sc-37653-V and TPX2 shRNA (m) Lentiviral Particles: sc-37654-V.

Molecular Weight (predicted) of TPX2: 86 kDa.

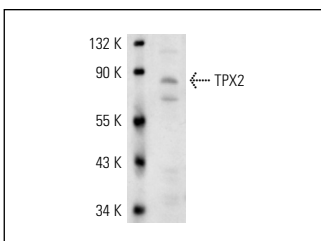
Molecular Weight (observed) of TPX2: 86/100 kDa.

Positive Controls: NIH/3T3 nuclear extract: sc-2138 or NIH/3T3 whole cell lysate: sc-2210.

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



TPX2 (K-14): sc-26277. Western blot analysis of TPX2 expression in NIH/3T3 nuclear extract.

PROTOCOLS

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

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Try **TPX2 (E-2): sc-271570** or **TPX2 (B-5): sc-376812**, our highly recommended monoclonal alternatives to TPX2 (K-14).