SANTA CRUZ BIOTECHNOLOGY, INC.

TPX2 (F-17): sc-26274

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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; Tpx2 (mouse) mapping to 2 H1.

SOURCE

TPX2 (F-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of TPX2 of human 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-26274 P, (100 µg 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 (F-17) is recommended for detection of TPX2 of human and, to a lesser extent, muose and 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).

TPX2 (F-17) is also recommended for detection of TPX2 in additional species, including equine, canine, bovine and porcine.

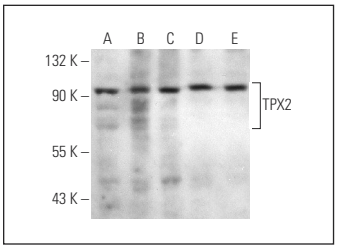
Suitable for use as control antibody for TPX2 siRNA (h): sc-37653, TPX2 siRNA (m): sc-37654, TPX2 shRNA Plasmid (h): sc-37653-SH, TPX2 shRNA Plasmid (m): sc-37654-SH, TPX2 shRNA (h) Lentiviral Particles: sc-37653-V and TPX2 shRNA (m) Lentiviral Particles: sc-37654-V.

Molecular Weight (predicted) of TPX2: 86 kDa.

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

Positive Controls: K-562 whole cell lysate: sc-2203, HeLa whole cell lysate: sc-2200 or A549 cell lysate: sc-2413.

DATA



TPX2 (F-17): sc-26274. Western blot analysis of HeLa (**A**), K-562 (**B**), SHP-77 (**C**), A549 (**D**) and NIH/3T3 (**E**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Smith, L.T., et al. 2006. 20q11.1 amplification in giant-cell tumor of bone: Array CGH, FISH, and association with outcome. Genes Chromosomes Cancer 45: 957-966.

PROTOCOLS

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