SANTA CRUZ BIOTECHNOLOGY, INC.

Sgo1 (D-19): sc-54329

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Sgo1 (shugoshin-like 1), also known as SGO or NY-BR-85, is a 561 amino acid nuclear and cytoplasmic protein that is widely expressed with highest expression in testis. Sgo1 localizes to the inner centromere throughout prophase until metaphase. Sgo1 is suggested to prevent premature dissociation of the cohesin complex from centromeres after prophase by impeding phosphorylation of the SA-2 subunit of the cohesin complex at the centromere. This ensures cohesin persistence at the centromere until cohesin cleavage is achieved by Separase at the anaphase stage of mitosis. Sgo1 is essential for proper chromosome segregation and for proper attachment of spindle microtubule to the kinetochore. Sgo1 may also play a role in the tension sensing mechanism of the spindle-assembly checkpoint by regulating Plk kinetochore affinity. Sgo1 exists as seven alternatively isoforms one of which (isoform 3) does not does not localize to kinetochores during any stages of the cell cycle.

REFERENCES

1. Tang, Z., et al. 2004. Human Bub1 protects centromeric sister-chromatid cohesion through Shugoshin during mitosis. Proc. Natl. Acad. Sci. USA 101: 18012-18017.
2. Goulding, S.E. and Earnshaw, W.C. 2005. Shugoshin: a centromeric guardian senses tension. Bioessays 27: 588-591.
3. Giménez-Abián, J.F., et al. 2005. Regulated separation of sister centromeres depends on the spindle assembly checkpoint but not on the anaphase promoting complex/cyclosome. Cell Cycle 4: 1561-1575.
4. Hamant, O., et al. 2005. A REC8-dependent plant Shugoshin is required for maintenance of centromeric cohesion during meiosis and has no mitotic functions. Curr. Biol. 15: 948-954.
5. Vaur, S., et al. 2005. Control of Shugoshin function during fission-yeast meiosis. Curr. Biol. 15: 2263-2270.
6. Kiburz, B.M., et al. 2005. The core centromere and Sgo1 establish a 50 kb cohesin-protected domain around centromeres during meiosis I. Genes Dev. 19: 3017-3030.

CHROMOSOMAL LOCATION

Genetic locus: SGOL1 (human) mapping to 3p24.3.

SOURCE

Sgo1 (D-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Sgo1 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-54329 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.

APPLICATIONS

Sgo1 (D-19) is recommended for detection of Sgo1 of human 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), immunohistochemistry (including paraffin-embedded sections) (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 Sgo1 siRNA (h): sc-106548, Sgo1 shRNA Plasmid (h): sc-106548-SH and Sgo1 shRNA (h) Lentiviral Particles: sc-106548-V.

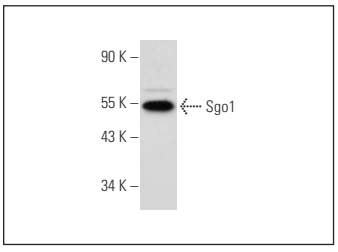
Molecular Weight of Sgo1: 75 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206.

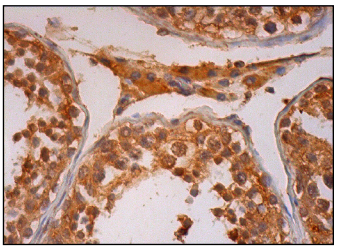
RECOMMENDED SECONDARY REAGENTS

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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



Sgo1 (D-19): sc-54329. Western blot analysis of Sgo1 expression in MCF7 whole cell lysate.



Sgo1 (D-19): sc-54329. Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing nuclear and cytoplasmic staining of cells in seminiferous ducts and cytoplasmic staining of Leydig cells.

RESEARCH USE

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