

# Speedy A (A-13): sc-139170

## BACKGROUND

Speedy A, also known as SPDYA, SPDY1, Ringo3 or SPY1, is a 313 amino acid protein that localizes to the nucleus and belongs to the speedy/ringo family. Expressed at high levels in testis and at lower levels in brain, kidney, heart, bone marrow, colon, lung, liver spleen and placenta, Speedy A functions to regulate the G<sub>1</sub>/S phase transition of the cell cycle, specifically by binding to and activating Cdc2 p34, Cdk2 and p27. Additionally, Speedy A mediates cell survival during DNA damage, suggesting that Speedy A plays a role in proper cell cycle progression throughout the life of the cell. Multiple isoforms of Speedy A exist due to alternative splicing events. The gene encoding Speedy A maps to human chromosome 2, which encodes over 1,400 genes and comprises nearly 8% of the human genome.

## REFERENCES

- Porter, L.A., Dellinger, R.W., Tynan, J.A., Barnes, E.A., Kong, M., Lenormand, J.L. and Donoghue, D.J. 2002. Human Speedy: a novel cell cycle regulator that enhances proliferation through activation of Cdk2. *J. Cell Biol.* 157: 357-366.
- Barnes, E.A., Porter, L.A., Lenormand, J.L., Dellinger, R.W. and Donoghue, D.J. 2003. Human SPY1 promotes survival of mammalian cells following DNA damage. *Cancer Res.* 63: 3701-3707.
- Porter, L.A., Kong-Beltran, M. and Donoghue, D.J. 2003. SPY1 interacts with p27Kip1 to allow G<sub>1</sub>/S progression. *Mol. Biol. Cell* 14: 3664-3674.
- Cheng, A., Xiong, W., Ferrell, J.E. and Solomon, M.J. 2005. Identification and comparative analysis of multiple mammalian Speedy/Ringo proteins. *Cell Cycle* 4: 155-165.
- Nebreda, A.R. 2006. Cdk activation by non-cyclin proteins. *Curr. Opin. Cell Biol.* 18: 192-198.
- Gastwirt, R.F., Slavin, D.A., McAndrew, C.W. and Donoghue, D.J. 2006. SPY1 expression prevents normal cellular responses to DNA damage: inhibition of apoptosis and checkpoint activation. *J. Biol. Chem.* 281: 35425-35435.
- Gastwirt, R.F., McAndrew, C.W. and Donoghue, D.J. 2007. Speedy/RINGO regulation of CDKs in cell cycle, checkpoint activation and apoptosis. *Cell Cycle* 6: 1188-1193.
- McAndrew, C.W., Gastwirt, R.F., Meyer, A.N., Porter, L.A. and Donoghue, D.J. 2007. SPY1 enhances phosphorylation and degradation of the cell cycle inhibitor p27. *Cell Cycle* 6: 1937-1945.

## CHROMOSOMAL LOCATION

Genetic locus: SPDYA (human) mapping to 2p23.2; Spdya (mouse) mapping to 17 E1.3.

## SOURCE

Speedy A (A-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Speedy A of human origin.

## RESEARCH USE

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

## 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-139170 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Speedy A (A-13) is recommended for detection of Speedy A of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Speedy A (A-13) is also recommended for detection of Speedy A in additional species, including equine.

Suitable for use as control antibody for Speedy A siRNA (h): sc-94630, Speedy A siRNA (m): sc-153738, Speedy A shRNA Plasmid (h): sc-94630-SH, Speedy A shRNA Plasmid (m): sc-153738-SH, Speedy A shRNA (h) Lentiviral Particles: sc-94630-V and Speedy A shRNA (m) Lentiviral Particles: sc-153738-V.

Molecular Weight of Speedy A: 34 kDa.

## 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) 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.

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.