

# Speedy A (G-15): sc-139171

## 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., et al. 2002. Human Speedy: a novel cell cycle regulator that enhances proliferation through activation of Cdk2. *J. Cell Biol.* 157: 357-366.
- Barnes, E.A., et al. 2003. Human SPY1 promotes survival of mammalian cells following DNA damage. *Cancer Res.* 63: 3701-3707.
- Porter, L.A., et al. 2003. SPY1 interacts with p27<sup>Kip1</sup> to allow G<sub>1</sub>/S progression. *Mol. Biol. Cell* 14: 3664-3674.
- Cheng, A., et al. 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., et al. 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., et al. 2007. Speedy/RINGO regulation of CDKs in cell cycle, checkpoint activation and apoptosis. *Cell Cycle* 6: 1188-1193.
- McAndrew, C.W., et al. 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 (G-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Speedy A 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-139171 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## RESEARCH USE

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

## APPLICATIONS

Speedy A (G-15) 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), 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).

Speedy A (G-15) is also recommended for detection of Speedy A in additional species, including equine, canine, bovine and porcine.

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.

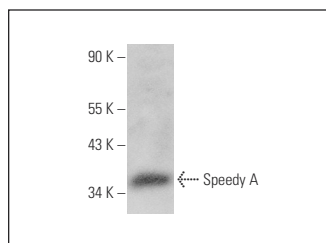
Molecular Weight of Speedy A: 34 kDa.

Positive Controls: NTERA-2 cl.D1 whole cell lysate: sc-364181.

## 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



Speedy A (G-15): sc-139171. Western blot analysis of Speedy A expression in NTERA-2 cl.D1 whole cell lysate.

## 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.