

# SA-1 (C-20): sc-54516

## BACKGROUND

The cohesion complex is a multi-protein structure that is required for cohesion of sister chromatids after DNA replication and may be involved in mitotic spindle pole assembly. The complex is composed of a heterodimer between SMC1 and SMC3, two proteins that are linked at their heads by Rad21, and an additional protein called SA-1 (stromal antigen 1). SA-1, also known as STAG1, is a 1,258 amino acid component of the cohesion complex that interacts directly with Rad21. Localized to the nucleus, SA-1 associates with chromatin and, upon phosphorylation by Plk, dissociates from chromatin to allow proper chromosome separation during anaphase. SA-1, the human homolog of yeast Scc3p, is expressed in thymus, bone marrow and spleen and is 99% similar to its mouse counterpart.

## REFERENCES

1. Carramolino, L., et al. 1997. SA-1, a nuclear protein encoded by one member of a novel gene family: molecular cloning and detection in hemopoietic organs. *Gene* 195: 151-159.
2. Sumara, I., et al. 2000. Characterization of vertebrate cohesin complexes and their regulation in prophase. *J. Cell Biol.* 151: 749-762.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 604358. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Anazawa, Y., et al. 2004. Identification of STAG1 as a key mediator of a p53-dependent apoptotic pathway. *Oncogene* 23: 7621-7627.
5. Krasikova, A., et al. 2005. Cohesion proteins are present in centromere protein bodies associated with avian lampbrush chromosomes. *Chromosome Res.* 13: 675-685.

## CHROMOSOMAL LOCATION

Genetic locus: STAG1 (human) mapping to 3q22.3; Stag1 (mouse) mapping to 9 E4.

## SOURCE

SA-1 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of SA-1 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-54516 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

SA-1 (C-20) is recommended for detection of cohesin subunit SA-1 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).

SA-1 (C-20) is also recommended for detection of cohesin subunit SA-1 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for SA-1 siRNA (h): sc-62968, SA-1 siRNA (m): sc-62969, SA-1 shRNA Plasmid (h): sc-62968-SH, SA-1 shRNA Plasmid (m): sc-62969-SH, SA-1 shRNA (h) Lentiviral Particles: sc-62968-V and SA-1 shRNA (m) Lentiviral Particles: sc-62969-V.

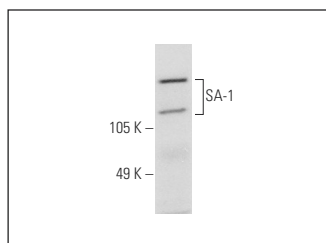
Molecular Weight of SA-1: 155 kDa.

Positive Controls: HuT 78 whole cell lysate: sc-2208, HEL 92.1.7 cell lysate: sc-2270 or mouse spleen extract: sc-2391.

## 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



SA-1 (C-20): sc-54516. Western blot analysis of SA-1 expression in HuT 78 whole cell lysate.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.