



STAG3 (D-20): sc-20341

BACKGROUND

Stromalins are a group of highly conserved proteins that are characterized by the stromalin conservative domain. Stromal antigen 3 (STAG3) is a nuclear protein that is expressed specifically in germinal cells. STAG3 associates with the synaptonemal complex (SC) via immunolocalization. The SC is a meiotic protein structure that aids in the pairing of homologous chromosomes. In mammals, STAG3 associates with the SC and assists in sister chromatid cohesion, which keeps the homologous chromosomes appropriately aligned during the pachytene stage of prophase I. STAG3 appears to be located at the interchromatid domain during metaphase I, but is undetectable in anaphase I or any of the later stages of meiosis. The human STAG3 gene maps to the 7q22 region of chromosome 7. There have been six additional STAG3-related genes mapped in humans. Two of these genes flank the chromosomal breakpoints associated with the Williams-Beuren syndrome (WBS), a microdeletion syndrome with varied clinical presentations.

REFERENCES

- Zickler, D. 1999. The synaptonemal complex: a structure necessary for pairing, recombination or organization of the meiotic chromosome? *J. Soc. Biol.* 193: 17-22.
- von Beust, G., et al. 2000. Clinical aspects and genetics of Williams-Beuren syndrome. Clinical and molecular genetic study of 44 patients with suspected Williams-Beuren syndrome. *Klin. Padiatr.* 212: 299-307.
- Pezzi, N., et al. 2000. STAG3, a novel gene encoding a protein involved in meiotic chromosome pairing and location of STAG3-related genes flanking the Williams-Beuren syndrome deletion. *FASEB J.* 14: 581-592.
- Prieto, I., et al. 2001. Mammalian STAG3 is a cohesion specific to sister chromatid arms in meiosis I. *Nat. Cell Biol.* 3: 761-766.
- Bayes, M., et al. 2001. Evaluation of the STAG3 gene and the synaptonemal complex in a rat model (as/as) for male infertility. *Mol. Reprod. Dev.* 60: 414-417.

CHROMOSOMAL LOCATION

Genetic locus: STAG3 (human) mapping to 7q22.1; Stag3 (mouse) mapping to 5 67.0 cM (5 G2).

SOURCE

STAG3 (D-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of STAG3 of mouse 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-20341 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

STAG3 (D-20) is recommended for detection of STAG3 of mouse and rat 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).

Suitable for use as control antibody for STAG3 siRNA (m): sc-38452.

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.

SELECT PRODUCT CITATIONS

- Storre, J., et al. 2005. Silencing of the meiotic genes SMC1β and STAG3 in somatic cells by E2F6. *J. Biol. Chem.* 280: 41380-41386.

RESEARCH USE

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

PROTOCOLS

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