

# SYCE1 (E-12): sc-139072

## BACKGROUND

SYCE1 (synaptonemal complex central element protein 1), also known as CT76 (cancer/testis antigen 76), is a 351 amino acid nuclear protein that belongs to the SYCE family and exists as three alternatively spliced isoforms. Colocalizing with SYCE2 on chromatin, SYCE1 exists as a homodimer and is found in the transverse central elements of the central region between lateral elements of the synaptonemal complexes (SCS). The transverse central element of the SCS is formed between homologous chromosomes during meiotic prophase and requires SYCP1. The gene that encodes SYCE1 maps to human chromosome 10q26.3. Spanning nearly 135 million base pairs, chromosome 10 makes up approximately 4.5% of total DNA in cells and encodes nearly 1,200 genes. Defects in some of the genes that map to chromosome 10 are associated with Charcot-Marie Tooth disease, Jackson-Weiss syndrome, Usher syndrome, nonsyndromic deafness, Wolman's syndrome, Cowden syndrome, multiple endocrine neoplasia type 2 and porphyria.

## REFERENCES

- Jabs, E.W., et al. 1994. Jackson-Weiss and Crouzon syndromes are allelic with mutations in fibroblast growth factor receptor 2. *Nat. Genet.* 8: 275-279.
- Berger, P., et al. 2002. Molecular cell biology of Charcot-Marie-Tooth disease. *Neurogenetics* 4: 1-15.
- Costa, Y., et al. 2005. Two novel proteins recruited by synaptonemal complex protein 1 (SYCP1) are at the centre of meiosis. *J. Cell Sci.* 118: 2755-2762.
- Teresi, R.E., et al. 2007. Cowden syndrome-affected patients with PTEN promoter mutations demonstrate abnormal protein translation. *Am. J. Hum. Genet.* 81: 756-767.
- Gallardo, T.D., et al. 2007. Genomewide discovery and classification of candidate ovarian fertility genes in the mouse. *Genetics* 177: 179-194.
- Cho, M.Y., et al. 2008. First report of ovarian dysgerminoma in Cowden syndrome with germline PTEN mutation and PTEN-related 10q loss of tumor heterozygosity. *Am. J. Surg. Pathol.* 32: 1258-1264.
- Bolcun-Filas, E., et al. 2009. Mutation of the mouse Syce1 gene disrupts synapsis and suggests a link between synaptonemal complex structural components and DNA repair. *PLoS Genet.* 5: e1000393.

## CHROMOSOMAL LOCATION

Genetic locus: SYCE1 (human) mapping to 10q26.3.

## SOURCE

SYCE1 (E-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of SYCE1 of human origin.

## 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.

## 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-139072 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

SYCE1 (E-12) is recommended for detection of SYCE1 isoforms 1-3 of 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); non cross-reactive with SYCE2.

Suitable for use as control antibody for SYCE1 siRNA (h): sc-90491, SYCE1 shRNA Plasmid (h): sc-90491-SH and SYCE1 shRNA (h) Lentiviral Particles: sc-90491-V.

Molecular Weight of SYCE1 isoforms: 40/33/22 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.

## RESEARCH USE

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