



## Cdc13 (yF-19): sc-12040

### BACKGROUND

Telomeres, which are G-rich repetitive sequences at the ends of linear eukaryotic chromosomes, function as protective caps and facilitate chromosome replication. During conventional DNA replication, telomeres are not fully replicated at the 5' end. Telomerase, the specific DNA polymerase that elongates shortened telomeres, is composed of an RNA subunit and a reverse transcriptase catalytic subunit. In *S. cerevisiae*, Est1 (ever shorter telomeres) and Cdc13 bind single-strand telomeric DNA, and both regulate telomere replication. Specifically, Est1 binds to the end of the telomere and mediates telomere recognition by telomerase. In addition to its regulatory function, Cdc13 binds to telomeric DNA to protect the ends from degradation and DNA damage, and to limit transcription of telomeric genes. Mutations in the Cdc13 and EST1 genes result in cell cycle arrest and senescence, respectively.

### REFERENCES

1. Lundblad, V. and Szostak, J.W. 1989. A mutant with defect in telomere elongation leads to senescence in yeast. *Cell* 57: 633-643.
2. Singer, M.S. and Gottschling, D.E. 1994. TLC1: template RNA component of *Saccharomyces cerevisiae* telomerase. *Science* 266: 404-409.
3. Virta-Pearlman, V., Morris, D.K. and Lundblad, V. 1996. Est1 has the properties of a single-stranded telomere end-binding protein. *Genes Dev.* 10: 3094-3104.
4. Lin, J.J. and Zakian, V.A. 1996. The *Saccharomyces* Cdc13 protein is a single-strand TG1-3 telomeric DNA-binding protein *in vitro* that affects telomere behavior *in vivo*. *Proc. Natl. Acad. Sci. USA* 93: 13760-13765.
5. Nugent, C.I. and Lundblad, V. 1998. The telomerase reverse transcriptase: components and regulation. *Genes Dev.* 12: 1073-1085.
6. Evans, S.K. and Lundblad, V. 1999. Est1 and Cdc13 as comediators of telomerase access. *Science* 286: 117-120.
7. Hughes, T.R., Weilbaecher, R.G., Walterscheid, M. and Lundblad, V. 2000. Identification of the single-strand telomeric DNA binding domain of the *Saccharomyces cerevisiae* Cdc13 protein. *Proc. Natl. Acad. Sci. USA* 97: 6457-6462.

### SOURCE

Cdc13 (yF-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Cdc13 of *Saccharomyces cerevisiae* 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-12040 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

Cdc13 (yF-19) is recommended for detection of Cdc13 of *Saccharomyces cerevisiae* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

### 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.

### RESEARCH USE

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

### PROTOCOLS

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