



## Mcm5 (yN-19): sc-6686

### BACKGROUND

Orc1 and Orc2 (also designated RRR1 or SIR5) are two of the six subunits that compose the yeast origin of replication complex (ORC). This complex binds to autonomously replicating sequences (ARS) and serves as an initiator protein for DNA replication. The minichromosome maintenance (Mcm) proteins also play an essential role in regulating DNA replication by binding to chromatin and activating the ORC-ARS complex. Cdc6, involved in limiting DNA replication to once per cell cycle, binds to the ORC and is essential for the assembly of the Mcm proteins. The transcription factor Abf1 (also designated Obf1 or Baf1) also binds to the ARS and plays a role in gene silencing as well as in DNA replication.

### REFERENCES

1. Hennessy, K., Lee, A., Chen, E., and Botstein, D. 1991. A group of interacting yeast DNA replication genes. *Genes Dev.* 5: 958-969.
2. Chen, Y., Hennessy, K.M., Botstein, D., and Tye, B.K. 1992. CDC46/MCM5, a yeast protein whose subcellular localization is cell cycle-regulated, is involved in DNA replication at autonomously replicating sequences. *Proc. Natl. Acad. Sci. USA* 89: 10459-10463.
3. Yan, H., Merchant, A.M., and Tye, B.K. 1993. Cell cycle-regulated nuclear localization of Mcm2 and Mcm3, which are required for the initiation of DNA synthesis at chromosomal replication origins in yeast. *Genes Dev.* 7: 2149-2160.
4. Dalton, S. and Whitbread, L. 1995. Cell cycle-regulated nuclear import and export of Cdc47, a protein essential for initiation of DNA replication in budding yeast. *Proc. Natl. Acad. Sci. USA* 92: 2514-2518.
5. McBroom, L.D.B. and Sadowski, P.D. 1995. Functional analysis of the ABF1-binding sites within the Ya regions of the MATa and HMRA loci of *Saccharomyces cerevisiae*. *Curr. Genet.* 28: 1-11.
6. Toyn, J.H., Toone, W.M., Morgan, B.A., and Johnston, L.H. 1995. The activation of DNA replication in yeast. *Trends Biochem. Sci.* 20: 70-73.
7. Cocker, J.H., Piatti, S., Santocanale, C., Nasmyth, K., and Diffley, J.F.X. 1996. An essential role for the Cdc6 protein in forming the pre-replicative complexes of budding yeast. *Nature* 379: 180-182.
8. Hopwood, B. and Dalton, S. 1996. Cdc45p assembles into a complex with Cdc46/Mcm5p, is required for minichromosome maintenance, and is essential for chromosomal DNA replication. *Proc. Natl. Acad. Sci. USA* 93: 12309-12314.

### SOURCE

Mcm5 (yN-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Mcm5 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-6686 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

Mcm5 (yN-19) is recommended for detection of Mcm5 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).

Molecular Weight of Mcm5: 90 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.

### SELECT PRODUCT CITATIONS

1. Semple, J.W., Da-Silva, L.F., Jervis, E.J., Ah-Kee, J., Al-Attar, H., Kummer, L., Heikkila, J.J., Pasero, P. and Duncker, B.P. 2006. An essential role for Orc6 in DNA replication through maintenance of pre-replicative complexes. *EMBO J.* 25: 5150-5158.

### 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.

### PROTOCOLS

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