SANTA CRUZ BIOTECHNOLOGY, INC.

MRS2p (yC-13): sc-30463



BACKGROUND

Saccharomyces cerevisiae utilize a variety of signaling molecules that regulate biochemical events at the cellular level, mediating proper response to developmental signals and environmental variables. The yeast nuclear gene MRS2 encodes a protein of 54 kDa, called MRS2p, which has been shown to be essential for the splicing of group II intron RNA in mitochondria and is also needed for the maintenance of a functional respiratory system. MRS2p is a component of the inner mitochondrial membrane with two transmembrane domains. It maintains intramitochondrial Mg(2+) concentrations at the correct level to support splicing of group II introns.

REFERENCES

- Wiesenberger, G., et al. 1992. The nuclear gene MRS2 is essential for the excision of group II introns from yeast mitochondrial transcripts *in vivo*. J. Biol. Chem. 267: 6963-9.
- Waldherr, M., et al. 1993. A multitude of suppressors of group II intronsplicing defects in yeast. Curr. Genet. 24: 301-6.
- Dujon, B., et al. 1997. The nucleotide sequence of Saccharomyces cerevisiae chromosome XV. Nature. 387: 98-102.
- Schmidt, U., et al. 1998. Mutant alleles of the MRS2 gene of yeast nuclear DNA suppress mutations in the catalytic core of a mitochondrial group II intron. J. Mol. Biol. 282: 525-41.
- Bui, D.M., et al. 1999. The bacterial magnesium transporter CorA can functionally substitute for its putative homologue Mrs2p in the yeast inner mitochondrial membrane. J. Biol. Chem. 274: 20438-43.
- 6. Gregan, J., et al. 2001. Mitochondrial Mg(2+) homeostasis is critical for group II intron splicing *in vivo*. Genes Dev. 15: 2229-37.
- Gregan, J., et al. 2001. The mitochondrial inner membrane protein Lpe10p, a homologue of Mrs2p, is essential for magnesium homeostasis and group II intron splicing in yeast. Mol. Gen. Genet. 264: 773-81.
- Baumann, F., et al. 2002. Insertion of bitopic membrane proteins into the inner membrane of mitochondria involves an export step from the matrix. J. Biol. Chem. 277: 21405-13.
- 9. Williams, E.H., et al. 2003. Antagonistic signals within the COX2 mRNA coding sequence control its translation in *Saccharomyces cerevisiae* mito-chondria. RNA. 9: 419-31.
- Kolisek, M., et al. 2003. Mrs2p is an essential component of the major electrophoretic Mg2+ influx system in mitochondria. EMBO J. 22:1235-44.

SOURCE

MRS2p (yC-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of MRS2p of *Saccharomyces cerevisiae* origin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PRODUCT

Each vial contains 200 μg lgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-30463 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

MRS2p (yC-13) is recommended for detection of MRS2p of *Saccharomyces cerevisiae* 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).

Molecular Weight of MRS2p: 54 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) Immunofluores-cence: 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.

PROTOCOLS

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