

## **Candida albican gene (CSA1) encoding a mycelial surface antigen and uses thereof**

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We have recently described the production of monoclonal antibodies (MAbs) directed against surface antigens of the *Candida albicans* yeast and mycelial forms, respectively. The mycelial surface antigen recognized by MAb 4E1 was shown to be present predominantly in the terminal third of the hyphal structures.

We have now cloned the corresponding gene (CSA1) by MAb 4E1-coated magnetic beads sorting of *S. cerevisiae* transformants expressing a *Candida albicans* genomic library.

The strategy is both highly selective and sensitive and provides an additional genetic tool to facilitate cloning of *Candida* genes encoding surface proteins. CSA1 is an intronless single copy gene in *Candida* and whereas RNA transcripts can be detected in exponentially growing yeast cells, gene expression is strongly increased upon induction of the mycelial growth phase.

The deduced amino acid sequence of Csa1p (1203-residues) shares many features with other cell wall proteins including the presence of repetitive motifs and domains. Most strikingly, a Cys-rich hydrophobic domain of 102 amino acids that is repeated five times in the protein shows significant sequence similarity with a major T-cell immunoreactive antigen (Ag2) from another opportunistic fungal human pathogen; *Coccidioides immitis*. This suggests that Csa1-like proteins may confer unique properties to the cell wall of fungal pathogens.

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