

2-dodecanol (decyl methyl carbinol) inhibits hyphal formation and SIR2 expression in *C. albicans*

ABSTRACT

Candida albicans is capable of undergoing yeast-hypha transition to attain pathogenicity in humans. In this study, we investigated the differential expression of CaSIR2 via quantitative real-time PCR (qPCR), during yeast-hypha transition with and without the presence of 2-dodecanol. SIR2 transcript levels were found to be significantly enhanced after hyphal induction as compared to the yeast form. This study found that 2-dodecanol is able to inhibit hyphal development and block SIR2 up-regulation, even in hyphal-inducing growth conditions. We suggest that SIR2 may be involved in *Candida albicans* quorum-sensing and serum-induced yeast-hyphae transition via the Ras1-cAMP-Efg1 signalling cascade.

Keyword: *Candida albicans*; SIR2 gene; Quantitative real-time PCR; Gene expression; Dodecanol