

P003 N-acetylglucosamine-inducible general amino acid permease, CaGap1p, co-ordinates external nitrogen source response and morphogenesis in *Candida albicans*.

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The ability to use a variety of nitrogen containing compounds as the sole source of all cellular nitrogen is a predominant feature in Yeast. In response to changes in the environment, there occurs an increase in the activity of the permeases responsible for uptake of amino acids for use as nitrogen source. The gene *CaGAP1*, homologous to *GAP1*, the general amino acid permease from *Saccharomyces cerevisiae*, was isolated on the basis of its induction by GlcNAc, through differential screening of a *C. albicans* genomic library. The gene could functionally complement a *S. cerevisiae* *gap1* mutant. GlcNAc induced expression of *CaGAP1* was further enhanced in synthetic minimal media supplemented with single amino acids (glutamate, proline, and glutamine) or urea (without amino acid) but repressed in minimal ammonium media. Induction of *CaGAP1* expression by GlcNAc was nullified in *C. albicans* deleted for transcription factor *CPH1* and hyphal regulator *RAS1*, indicating the involvement of Cph1p dependent Ras1p signaling in *CaGAP1* expression. Even a calmodulin dependent protein kinase C played a role in the expression of *CaGAP1*. Homozygous mutant of this gene showed defective hyphal formation in solid hyphal-inducing media and exhibited less hyphal clumps when induced by GlcNAc.