

**Putative response regulator two-component gene, CaSKN7,
regulate differentiation and virulence in *Candida albicans***

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We have identified and analysed a putative response regulator two-component gene (CaSKN7) from *Candida albicans* and its encoding protein (CaSkn7). CaSKN7 has an open reading frame of 1677bp. CaSKN7 encodes a 559 amino acid protein (CaSkn7) with an estimated molecular mass of 61.1 kDa. CaSKN7 is a homologue of a *Saccharomyces cerevisiae* SKN7 that is the regulator involved in the oxidative stress response. To study the role of CaSKN7, we constructed a CAI4-derived mutant strain carrying a homozygous deletion of the CaSKN7 gene. In the *casKn7* disruptant cells, the formation of germ tube require shorter time than that in the congenic wild-type strain but the growth of mycelium delayed in liquid media. In contrast, the *casKn7* disruptant cells attenuate the differentiation in solid media and the virulence in mouse model system. Expression level of hypha-specific and virulence genes - HYR1, ECE1, HWP1, and ALS1 - in the *casKn7* disruptant cells increased as compared with that in the congenic wild-type strain in 10% serum YPD. Skn7 in *S. cerevisiae* was found to bind the HSE element from the SSA promoter. Also, CaSkn7 contains heat shock factor DNA-binding domain and the promoters of these genes have HSE-like sties. Therefore these results show that CaSKN7 regulate the differentiation and virulence of *C. albicans*.