REDUCED LEVEL OF INDUCED ENDOCYTOSIS IN *CANDIDA ALBICANS SAP7* MUTANTS

OBJECTIVE: To investigate the effect of *C. albicans SAP7* gene in induced endocytosis in *Candida*-epithelial cell interactions

METHOD: In this study, *C. albicans sap7* mutant strain was constructed in our laboratory by a PCR – based gene disruption method. In the endocytosis assay, the number of *C. albicans* cells that were cell-associated with and endocytosed by OKF6/TERT2 was determined using differential fluorescence assay with minor modifications. Briefly, conflucent OKF6/TERT2 cells were infected with 1×10^5 *Candida* cells for 3 h incubation. After removing nonadherent organisms, the cells were fixed with 3% paraformaldehyde. The adherent but not endocytosed *Candida* cells were stained by a polyclonal rabbit anti-*Candida* antibody conjugated with red fluorescence Alexa Fluor 568. Afterwards, cells were permeated with 0.5% Triton X-100. All cell-associated organisms (including adherent and endocytosed organisms) were labeled with anti-*Candida* antibody conjugated with green fluorescence Alexa Fluor 488. The number of endocytosis organisms was determined by subtracting the number of adherent organisms (which is red fluorescence) from the number of cell-associated organisms (which is green fluorescence) observed under CLSM. In each well, at least 100 organisms were examined, and this assay was conducted in triplicate on three separate occasions.

RESULT: Deletion of the *SAP7* gene in *C. albicans* attenuated the induced endocytosis in *C. albicans* - epithelial cell interactions. Compared with the wild type SC5314, *C. albicans sap7* mutant strain significantly reduced the induced endocytosis by 47.8% ($p < 0.01$).

CONCLUSION: *SAP7* gene contributes to *C. albicans* induced endocytosis of oral epithelial cells.