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Record 1 of 1**Title:** Identification of immunogenic proteins of *Candida parapsilosis* by serological proteome analysis**Author(s):** Lee, PY (Lee, P. Y.); Gam, LH (Gam, L. H.); Yong, VC (Yong, V. C.); Rosli, R (Rosli, R.); Ng, KP (Ng, K. P.); Chong, PP (Chong, P. P.)**Source:** JOURNAL OF APPLIED MICROBIOLOGY **Volume:** 116 **Issue:** 4 **Pages:** 999-1009 **DOI:** 10.1111/jam.12408 **Published:** APR 2014**Times Cited in Web of Science Core Collection:** 4**Total Times Cited:** 4**Usage Count (Last 180 days):** 0**Usage Count (Since 2013):** 5**Cited Reference Count:** 50**Abstract:** Aims

Systemic candidiasis is the leading fungal bloodstream infection, and its incidence has been on the rise. Recently, *Candida parapsilosis* has emerged as an increasingly prevalent fungal pathogen, but little is known about its antigenic profile. Hence, the current work was performed to discover immunogenic proteins of *C.parapsilosis* using serological proteome analysis.

Methods and Results

Cell wall proteins extracted from *C.parapsilosis* were resolved by two-dimensional electrophoresis followed by immunoblotting using antisera from experimentally infected mice. Mass spectrometry analysis of the 32 immunoreactive protein spots resulted in the identification of 12 distinct proteins. Among them, 11 proteins were known antigens of *Candida albicans*, whereas Idh2p was identified for the first time as an immunogenic protein of *Candida* species. Recombinant Idh2p was expressed in *Escherichia coli*, and its antigenicity was verified by immunoblot analysis.

Conclusions

An immunoproteomic approach was successfully applied to identify immunogenic proteins of *C.parapsilosis*, with Idh2p as a novel candidate antigen. The identified antigens may serve as potential biomarkers for development of diagnostic assay and/or vaccine for *C.parapsilosis*.

Significance and Impact of the Study

This work represents the first immunoproteomic analysis of *C.parapsilosis*, which provides new insights into host-pathogen interactions and pathogenesis of *C.parapsilosis*.

The immunogenic proteins could be studied as biomarker candidates for *C.parapsilosis*.

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