



## Protein extraction from *Candida albicans* after interaction with *Streptococcus gordonii*

Department of Oral and Dental Science, Univ. of Bristol - UK

### CONTEXT

Human mucosal surfaces are colonized by diverse microbial communities. *Candida albicans* colonizes human mucosal surfaces and is a major systemic fungal pathogen. Biofilm formation and virulence are both linked to the ability to transition from the yeast (blastospore) growth form to the filamentous (hyphal) growth form.

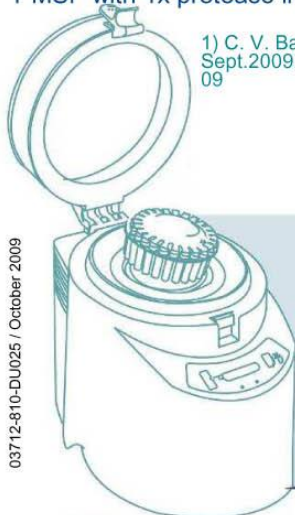
The aims of this research were to better understand the interactions between the oral bacteria *Streptococcus gordonii* and the disease associated fungus *C. albicans*.

Specifically, we analyzed the effects of *S. gordonii* DL1 on activation of MAP kinases Cek1 and Mkc1 which impact *C. albicans* morphogenesis from blastospore to the filamentous hyphal form, and the role of H<sub>2</sub>O<sub>2</sub> in this interaction<sup>(1)</sup>.

### MATERIAL

- Precellys®24.
- Precellys® kit: 03961-1-004 (0.5 mm glass beads).
- Sample: *C. albicans* cells treated with *S. gordonii* DL1 with or without H<sub>2</sub>O<sub>2</sub> stimulation.
- Buffer: Lysis buffer Tris-HCl, pH 5, glycerol, TritonX100, SDS, NaCl, NaF, Sodium orthovanadate, glycerol phosphate, sodium pyrophosphate, EDTA, PMSF with 1x protease inhibitor cocktail (Sigma).

1) C. V. Bamford et al, Infection and Immunity, Sept.2009, p3696-3704. doi:10.1128/IAI.00438-09



03712-810-DU025 / October 2009



### CONCLUSION

These observations suggest that interactions between *C. albicans* and *S.gordonii* involve physical (adherence) and chemical (diffusible) signals that influence the development of biofilm communities. Thus, bacteria may play a significant role in modulating *Candida* carriage and infection processes in the oral cavity.

Precellys®24 provided a **simple** and **speedy** method of homogenizing the *C. albicans* cells to produce an array of cell wall samples which could **easily** and **quickly** be analysed at the **same time with confidence** that the samples were comparable.

For more details, please contact [precellys@bertin.fr](mailto:precellys@bertin.fr)



<http://www.technosaurus.co.jp>

- 東京  
〒162-0805 東京都新宿区矢来町 113 番地 TEL(03)3235-0661(代) FAX(03)3235-0669
- 大阪  
〒532-0005 大阪市淀川区三国本町2丁目12番4号 TEL(06)6396-0501(代) FAX(06)6395-2588
- 福岡  
〒812-0054 福岡市東区馬出 1 丁目 2 番 23 号 TEL(092)631-1012(代) FAX(092)641-1285

※会社名および商品名は、各会社の商標または登録商標です。  
※本カタログに記載の規格・仕様・外観は予告なく変更する場合がありますので御了承下さい。