**Supplemental Figures**

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**Figure 1:** Fluorescence images of MDCK cells stained with a cell-permeable fluorogenic calpain substrate (blue), anti- E-cadherin antibody (red), and counterstained with nucleic acid stain Syto9 (green). MDCK cells were incubated with heat-killed *S. oralis* 34 (So), *C. albicans* SC5314 (Ca) or their combination (CaSo) for 24h before staining. Bars: 50µm.

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**Figure2:** Calpain activity of OKF6/TERT-2 cells challenged with yeast or hyphae of *C. albicans* SC5314 (Ca) fixed with 10% formalin (Yeast-F or Hyphae-F), yeast or hyphae of *C. albicans* SC5314 treated by thimerosal (Yeast-T or hyphae -T), and their combination with *S. oralis* 34 for 24 hours, as measured by a fluorescence reader. Basal fluorescence was subtracted from each value resulting in negative mean values for some conditions. Results are means ±SD of each condition set up in triplicate in one of two representative experiments.

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**Figure 3:** Overlay images of mucosal analogue tissue sections stained with anti-*Candida* antibody (green), Alexa Fluor 568-labelled probe for streptococci (red), and counterstained with nucleic acid stain Hoechst 33258 (blue). Tissues were infected with *C. albicans* CAI4 (Ca), *C. albicans*/ *S. oralis* 34 (CaSo) or *C. albicans*/ *S. mitis* (CaSm) for 16h. Bars: 50µm.

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**Figure 4:** Soluble E-cadherin released into subnatants in mucosal analogue tissues shown in Figure 6, was measured by ELISA. \*P<0.05.

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**Figure 5:** The biofilm biomass and extent of mucosal and submucosal invasion was quantified using the IMARIS 7.0 software package (Bitplane, Inc., Saint Paul, MN), by generating a 3D reconstruction of biofilm on the “Surpass” mode for the green channel (*Candida*) as seen by confocal microscopy. The total biofilm and invasion area were measured separately by segmentation of a region of interest, with manually created contours, for each image. Images from tissues shown in Figure 6 were used for these analyses.