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**Title:** Anaerobic bacteria and host defence in cystic fibrosis

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**Body:** Anaerobic bacteria have been isolated in high numbers from the sputum of patients with Cystic Fibrosis (CF). However, it is not known whether these bacteria contribute to inflammatory responses. The aim of this study was to investigate the effect of *Prevotella* spp. on airway epithelial cells. Airway epithelial cells were incubated for 24h under anaerobic conditions with clinical isolates of *Prevotella* spp. Cells were also cultured for 2h in the presence of *Prevotella* spp. followed by *P.aeruginosa* spp. and incubated for 22h. IL-8, IL-6 and LDH release were measured. Data are presented as mean± SEM for n=3. *P..nigrescens* exposure induced IL-8 release from our cells; however this was substantially lower than the 15 fold increase noted for *P.aeruginosa* exposure (Table 1). In co-culture, IL-8 was reduced by over 50%. The data for IL-6 were similar. LDH release was similar under all conditions. These data indicate that the anaerobic bacteria found in C.F airway may have anti-inflammatory properties. Gene expression analysis will elucidate the mechanism of this response from a bacterial and cellular standpoint.

Table 1: IL-8 and LDH release from *P.nigrescens* and *P.aeruginosa* in isolation and our co-culture model (mean± SEM for n=3)

Isolate	Multiplicity of Infection (M.O.I)	IL-8 Release	Fold IL-8 Release	LDH Release	% LDH Release
<i>P.nigrescens</i>	100	4.61±0.16	5.35	12.5±2.2	12.5%
<i>P.aeruginosa</i>	100	15.6±0.99	15.00	13±3.0	13.0%
<i>P.nigrescens</i> followed by <i>P.aeruginosa</i>	100	6.9±0.11	8.00	9.0±1.0	9.0%