

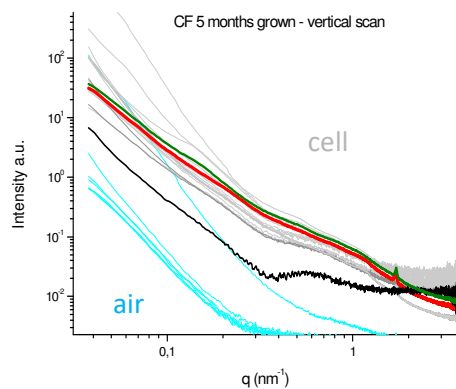
## SC4598 REPORT

We defined the set up to obtain the favorable condition to perform successfully the experiments described in the proposal.

Two sets of air/liquid interface growing human cell from CF patients were cultured for intermediate and long time, respectively, to enable us testing the mucus layer thickness at the two stages.

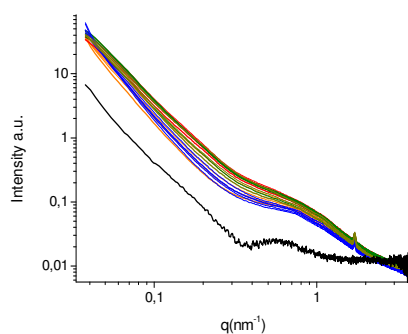
Several months culture growing was needed to have enough mucus to perform SAXS on top of living cells.

We report results of one scan on the cell culture of long -grown primary ALI cell form CF donors (Figure 1).



**Figure 1.** The red and green line were evaluated to be totally immersed in the mucus.

Mucus layer in long-grown CF-cells is typically inhomogeneous due to ineffective mucociliary clearance. Spectra are inhomogeneous along the horizontal scan and the interface air/mucus was easily found affecting the scattering profile (Figure 2.)



**Figure 2.** Scattering profile inside mucus from an horizontal scan.

Control experiments were performed on solution of collected mucus from parallel cultured transwell and different .

Experiment with in advanced delivered nanoparticles were also performed.