Supporting Information

Engineering *in vitro* models of cystic fibrosis lung disease using neutrophil extracellular trap inspired biomaterials

Allison Boboltz[1], Sydney Yang[1], Gregg A. Duncan[1]
[1]Fischell Department of Bioengineering, University of Maryland, College Park, MD 20742, USA
*Correspondence to: Gregg Duncan; email: gaduncan@umd.edu

Video S1. 100 nm PEG-coated nanoparticles diffusing within a DAPI-stained DNA scaffold of sNETs in suspension. A video of both the sNETs and nanoparticles simultaneously was captured at 63x magnification with a Zeiss 800 LSM microscope, taken at a frame rate of 0.65 Hz for 10 seconds. Then the nanoparticle trajectories were tracked using the FIJI plugin TrackMate. Nanoparticles (circled in red) were tracked, with their trajectory paths shown in white. Nanoparticles with no white trajectory paths shown indicate that the particle was immobilized. The trajectories of the nanoparticles were overlaid on top of the original video with the opacity reduced to 50%. Scale bar, 25 μm.

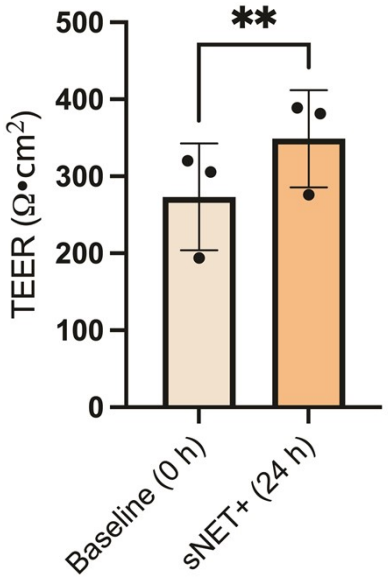

Figure S1. Mean TEER of BCI-NS1.1 cultures (n = 3) at air-liquid interface measured immediately before (baseline, 0 h) and 24 hours after overlaying sNET+ HAE mucus onto the apical surface. Statistical significance was determined using a two tailed paired t-test (** = $p < 0.01$).

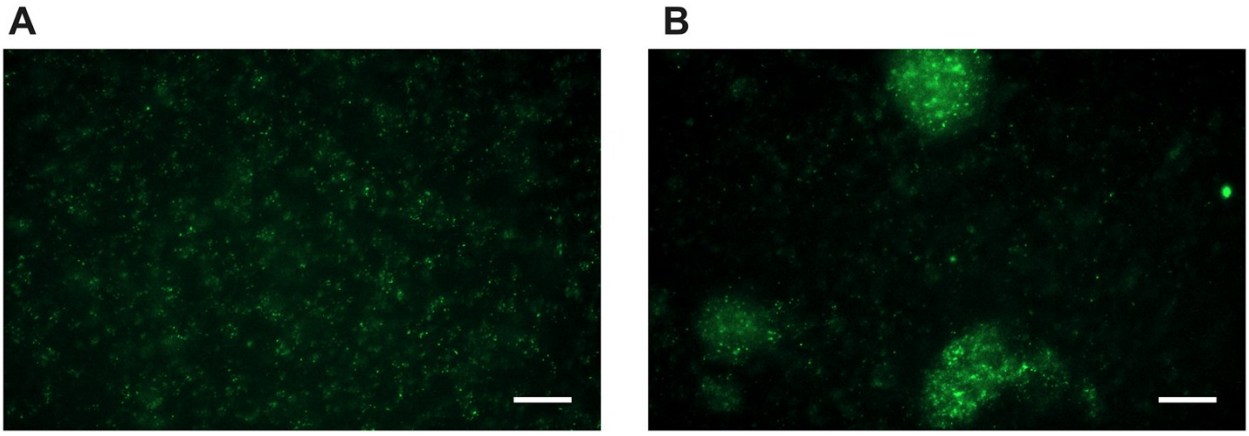

Figure S2. Images of GFP-expressing PAO1 bacteria cultured in the absence of mucus for 1 hour at 37°C in A) buffer alone (control) or B) in a suspension of 1.5 mg/ml sNETs. Scale bar, 25 μm.