Scalable Extraction of Airway Mucins from Porcine Trachea

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SUPPLEMENTAL INFORMATION

Figure S1. Microrheology of commercial (PGM$_C$) and lab extracted (PGM$_{EX}$) porcine gastric mucins.
(**A**) Representative trajectories for diffusion of 100 nm NP in 2% and 4% solubilized mucins. Trajectory colors change as a function of time with 0 s indicated by dark blue and 5 s indicated by dark red. Scale bar = 1 μm. (**B**) Calculated median MSD at a time scale of 1 second (MSD$_{1s}$) for solubilized mucins. Each data point represents the median calculated MSD$_{1s}$ in each video with at least 5 videos from 3 technical replicates. Black lines indicate interquartile range. (**C**) Estimated pore size (ξ) from NP diffusion. (**D**) Estimated microviscosity (η) from NP diffusion. Datasets in (B,C,D) analyzed with Kruski-Wallis test with Dunn's test for multiple comparison: ns = not significant, **** $p < 0.0001$, ** $p < 0.01$.

Figure S2. Microrheology of bovine submaxillary (BSM$_C$) and porcine tracheal (PTM$_{EX}$) mucin. (A) Representative trajectories for diffusion of 100 nm NP in 2% and 4% solubilized mucins. Trajectory colors change as a function of time with 0 s indicated by dark blue and 5 s indicated by dark red. Scale bar = 1 μm. **(B)** Calculated median MSD at a time scale of 1 second (MSD$_{1s}$) for solubilized mucins. Each data point represents the median calculated MSD$_{1s}$ in each video with at least 5 videos from 3 technical replicates. Black lines indicate interquartile range. **(C)** Estimated pore size (ξ) from NP diffusion. **(D)** Estimated microviscosity (η) from NP diffusion. Datasets in (B,C,D) analyzed with Kruski-Wallis test with Dunn's test for multiple comparison: ns = not significant, **** p < 0.0001, ** p < 0.01.