

Description of additional supplementary Information files

Supplementary Data 1 (PDF). Annotated MS/MS spectra of O-glycan structures identified in *porcine* gastric mucins, healthy sputum and cystic fibrosis sputum. PGC retention times, $^{TWIMS}CCS_{N2}$ and $^{TIMS}CCS_{N2}$ are also indicated.

Supplementary Data 2 (Excel). Processed glycomics data generated in this study, including the identified O-glycan structures with $^{TWIMS}CCS_{N2}$ and $^{TIMS}CCS_{N2}$, putative structure, area ratios from PGC-LC-TWIMS and TIMS data.

Supplementary Data 3 (Excel). Protein intensities output reported by the MaxQuant identification software for the proteomics data on the sputum samples.