



Showcasing research from Professor Benjamin Miller's laboratory, Department of Biomedical Engineering, University of Rochester, Rochester, New York, USA.

A photonic biosensor-integrated tissue chip platform for real-time sensing of lung epithelial inflammatory markers

Tissue chips (TCs; also known as microphysiological systems or organ chips) mimic complex human biology at small scale. Here, photonic sensors (ring resonators) have been incorporated into a two-channel microfluidic system in which the TC is cultured on a nanoporous silicon membrane. By having the sensors in close proximity to cells, cellular secretion and changes in barrier function can be quantified in real time with spatial resolution. Image reproduced by permission of University of Rochester.

As featured in:



See Benjamin L. Miller *et al.*,
Lab Chip, 2023, **23**, 239.