Using Optical Technologies to Investigate the Micromechanics and Molecular Adhesion Properties of Lung Epithelial Cells

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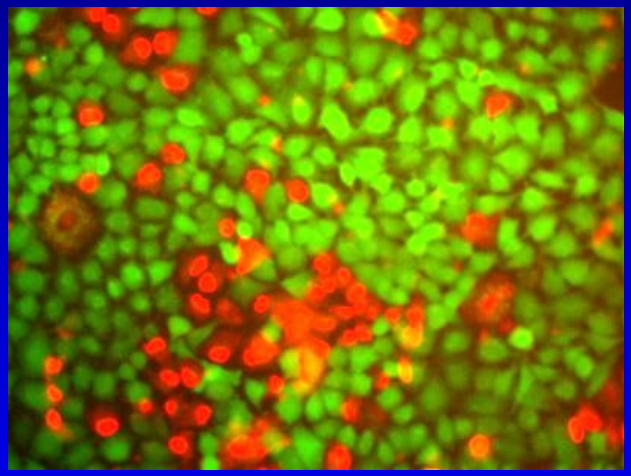
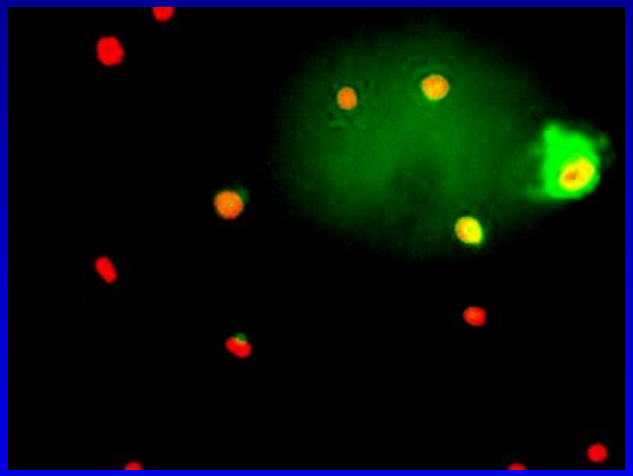
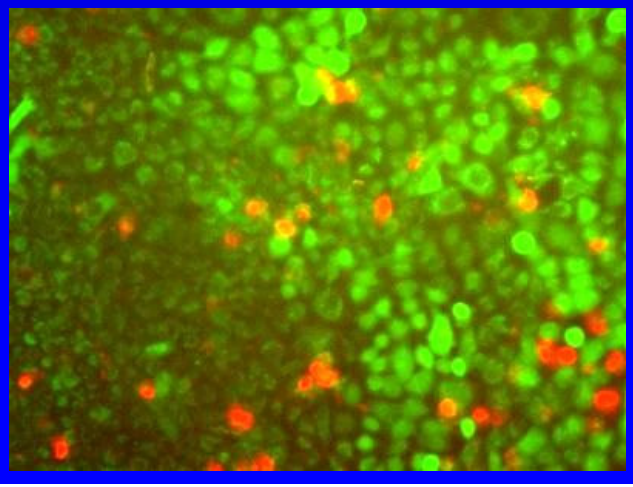
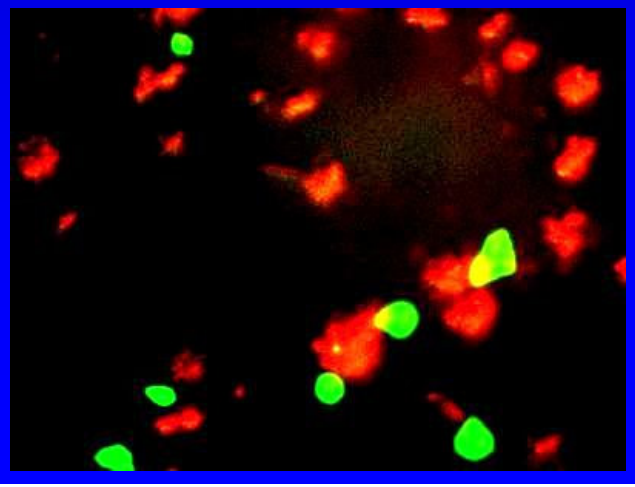
Influence of Cell Topography/Morphology

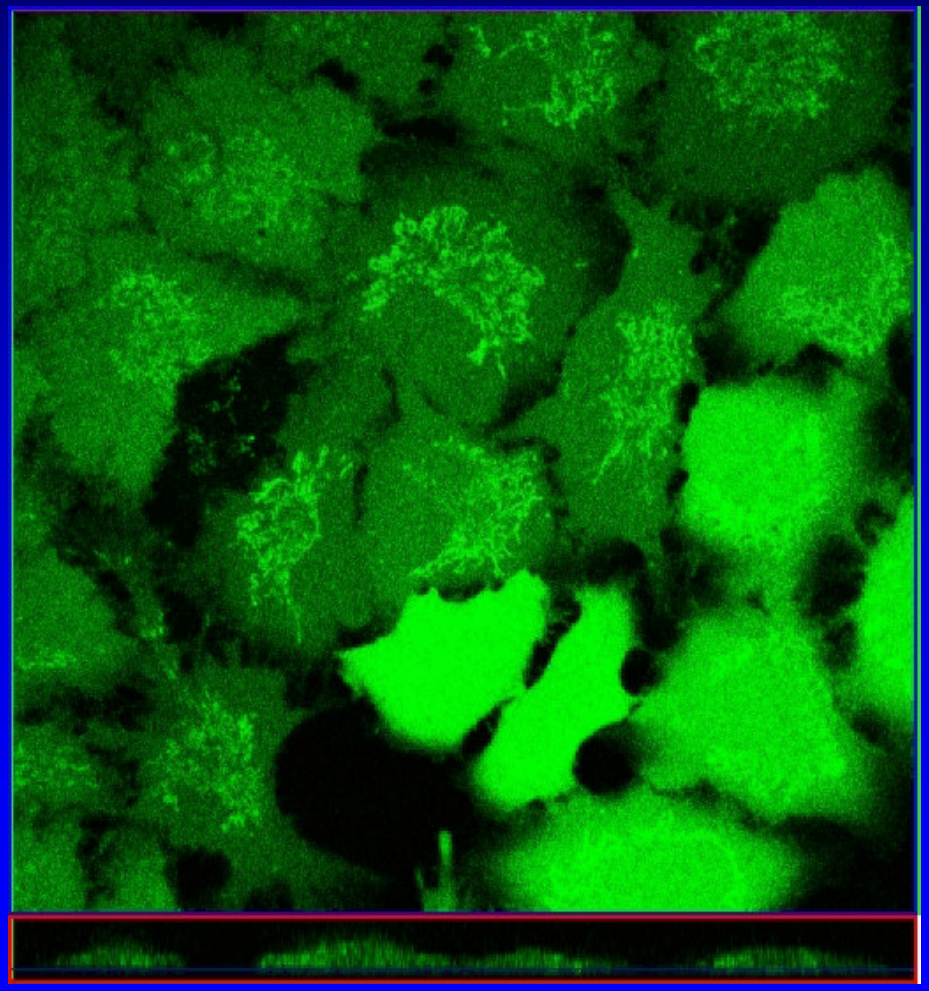
- Most experiments performed with confluent monolayers.
- Denuded basement membrane during ALI → sub-confluent cell layer.
- Sub-confluent cells are highly susceptible to injury/death (~100%).

	Confluent Cells	Sub-Confluent Cells
U = 0.04 cm/s		
U = 0.4 cm/s		

Optical Assesment of Cell Topology/Morphology

- Laser-scanning confocal microscope w/ Calcein AM stain prior to experiment.

Confluent Cells



Sub-Confluent Cells