Supplementary Photoset for Lab #1

Section D.

Photomicrograph I
Section D.

Photomicrograph II
Section E.

**Figure A.** Apex of nonciliated tracheal epithelial cell filled with large triphasic granules. The central cores (arrowheads) are the most electron-dense; 18 days postnatal.

**Figure B.** Light micrograph of peripheral airway from a female patient, 73 years of age who died of severe asthmatic attack. Marked goblet cell hyperplasia, with intraluminal accumulation of mucus was observed in addition to smooth-muscle contraction, peribronchiolar cell infiltration, and fibrosis (bar = 0.5 mm; Elastica-Goldner stain).
Figure C. Scanning electron micrographs of the surface of respiratory mucosa: Top: most of the surface is covered with cilia. G, goblet cells. 2500X. Bottom: subsurface accumulations of mucus are evident in the goblet cells (thin arrows). Thick arrows indicate brush cells. 3000X.
Figure D1. The amount of intracellular secretion detectible by histochemical stains is dependent on the balance of the rate of precursor uptake and glycoprotein synthesis and the rate of discharge from the cell.
Figure D2. Light microscopic histological secretion through fetal lung at 16 weeks gestation showing its pseudoglandular appearance at this time. The section illustrates developing bronchi (B) and peripheral airways (P) close to the pleural edge (H&E, x150).

Figure D3. Freeze-fracture (FF; x21,000)
Figure D4. Scanning (SEM) microscopy (x8000). All fixed initially in glutaraldehyde.

Figure D5. Electron micrographs of human airway surface secretary cells as they appear using three techniques: Transmission (TEM; x6800).
Figure E1

Figure E2
Figure E3

Figure E4

Figure E5

Figure 17-3. Electron micrograph of ciliated columnar cells of the respiratory epithelium, showing the ciliary microtubules in transverse and oblique section. In the cell apex are the knobbed basal bodies that serve as the source of, and anchoring sites for the ciliary axonemes. The basal accumulation of mitochondria is related to energy production for ciliary movement. Note the junctional complex. ×4200.