

Guide to Mammary Micro-Structure Module

Page	Topic	How would you answer these?
1	Microstructure	
2	Tissue organization	Approximately how many alveoli are in each lobule?
3	Lobules	
a	Lobules	With what is each lobule surrounded?
b	More lobules	What is different about the histology of lactating tissue compared with nonlactating tissue?
4	An Alveolus	
a	An alveolus	Do you know what an epithelial cells is? If not, look it up. What cells other than epithelial cells are present in the mammary tissue?
b	Alveolus	How do these leukocytes indicated in the lumen relate to the somatic cells you learned about in the mastitis sections?
c	Images of tissue	
d	More images	Lectins are proteins that bind to oligosaccharides. In this case, the oligosaccharides are mostly on glycoproteins. The binding is different for Con-A vs WGA. What does that tell you about the distribution of those glycoproteins.
5	Alveolar epithelial cells	
a	Diagram	What does it mean when we say that the epithelial cells are polarized?
b	Cells	How do these images of electron micrographs compare with those taken using a light microscope in pages 4b-d above?
c	Organelles	What does RER stand for?
d	Organelles	What is the composition of the casein micelles? (Hint if you do not remember then go back to the Milk Composition Module.)
6	Milk synthesis processes	
a	Milk synthesis processes	What is the fluid outside of the cells called?
b	Amino acids to proteins	How are milk proteins secreted?
c	Glucose to lactose	Where is lactose synthesized in the epithelial cell?
d	Milk fat precursors	How does a lipid droplet differ from a milk fat globule?
e	Transport of others	What type of protein is transported via a receptor mediated process?
g	Paracellular pathway	To enter milk via this pathway, a molecule would have to pass between cells through what ?
g	Synthetic activity in cells	If you were an amino acid taken up by the cell, about how long before you would end up in a protein found in the alveolar lumen?
7	Study questions	