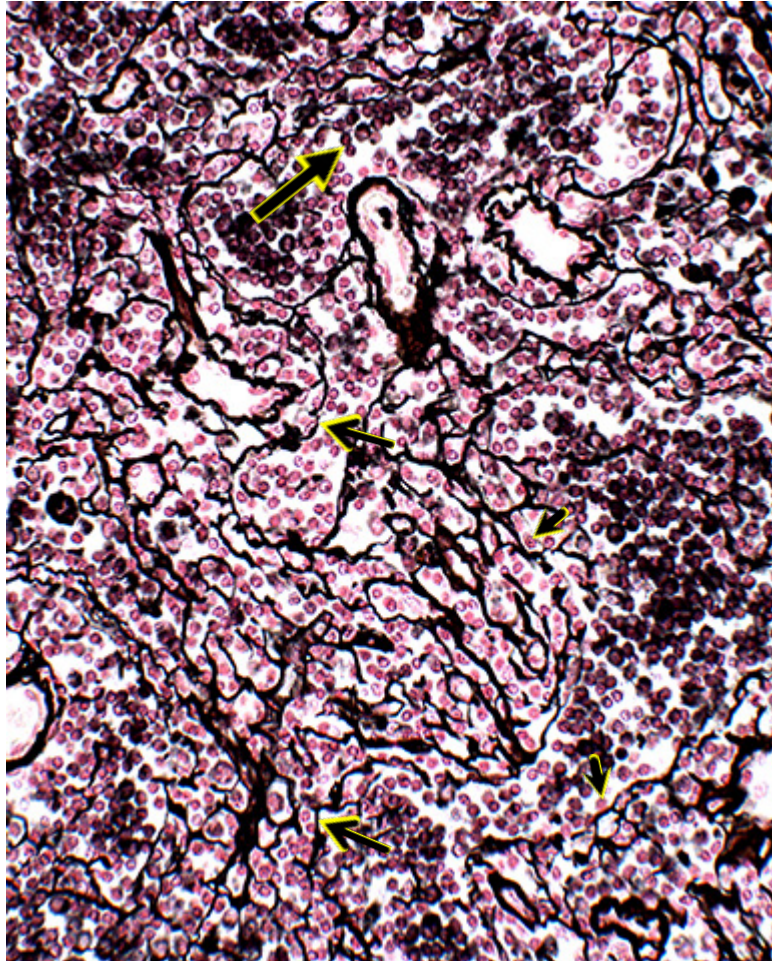





PST-CT-9: Reticular Connective Tissue Visual Microscopy Kit



This photomicrograph is at 400X magnification. It shows reticular connective tissue from a lymph node. This slide was stained so that reticular fibers are dark brown, while the cell nuclei appear pink. Reticular fibers are thinner than collagen fibers, even though they are also made of collagen. The cells that secrete reticular fibers are reticulocytes (or reticular cells). Reticulocytes and lymphocytes make up the majority of the cells in this view (other white blood cells are also present).

-  Indicates reticular fibers
-  Indicates a nucleus likely to belong to a reticulocyte
-  Indicates a region of nuclei likely to be lymphocytes

This staining does not distinguish reticulocytes from lymphocytes clearly. Reticulocytes tend to remain affixed to reticular fibers and have a more stellate shape while lymphocytes are free to move around and are round in shape.

Reticular connective tissue provides an excellent matrix for filtration, which is why it is ideal in lymphatic tissues.

For all Cell Zone[®], Inc. posters

General Instructions:

- Move from room to room or maintain in one location
- Hang on any permanent or removable hook by the grommet
- Use a dry erase marker on the frame; erase the same day to ensure clarity
- Store multiple posters by stacking so that the grommet cannot scratch the front of a neighboring poster

Advantages with using posters:

- Hanging real cell micrographs makes your classroom or lab space look like a place where real science is done
- The posters can be hung as art or for learning
- The posters can be paired with microscopy or used separately
- You will always have a good example of what you want your students to see

Lessons for this specific poster

1. Have your students identify the type of tissue in this photomicrograph (epithelial, connective, nervous, muscle). Then have them describe the cells and the extracellular matrix (is it mostly fibers or mostly ground substance?). There are many correct ways to describe this tissue-- the point is that by trying they are making personal interpretations and evaluations. Then have them identify the specific connective tissue (reticular).
2. Give your students a list of possible connective tissue functions and have them match a function with this image based on its appearance and structure. Some function options are: fat storage, connecting muscle to bone, transport of nutrients, structural support, filtration of bodily fluids, etc. You can even use this to functional discussion to lead to understanding the purpose of lymphatic tissue and organs.
3. Hand your students a dry erase marker and have them identify cells, fibers, and ground substance (the white background). Then have them identify the specific cell type/s and fibers visible.
4. When pairing the use of the poster with microscopy, you can do each of the following:
 - Set up a few microscopes with connective tissue visible. Have them identify which microscope has the same tissue visible in its field as this photomicrograph.
 - Have your students view areolar connective tissue in their microscopes and ask them to identify the three types of fibers visible (collagen, reticular, elastic). See if they can determine which of those three are visible in this image. They should be able to determine that elastic fibers are too springy and collagen fibers are too thick to bend so much.
 - Have your students identify the magnification used for this image.

