You will need:

- Double-edged razor blades
- Fine-tipped paintbrush
- Sectioning block
- 12-wwll cell culture plate, each well filled halfway with water
- agarose-embedded samples, in water
- ice water
- crazy glue
- slides
- cover-slides
- toluidene blue

Preparing the vibratome:

- Cut a 1 cm piece off of embedded sample. Trim ends so sample is perpendicular to each end.
- Use crazy glue to glue sample to sectioning block. Let dry several minutes
- Place sectioning block with sample into vibratome. Screw sample into place with lever on the right.
- Place 1 half of a double-sided razor blade into the vibratome. (Push downwards on top lever to open clamp). Adjust blade angle so that the block holding the blade is perpendicular to the sample.
- Fill vibratome with ice water (although avoid the ice itself) until sample is completely covered by the water and the edge of the razor blade is covered.
- Turn dial counterclockwise until blade edge is above your sample. (Clockwise lowers the blade, counterclockwise raises it)

Making sections:

- Turn machine on with switch on the right. A light should turn on.
- Use the switch at the left to control the blade movement. Up is fast-forward, down is reverse. Press up on the lever to move blade towards sample. Make sure the blade is just above sample. If not, reverse blade and adjust the blade height with the dial.
- Continue adjusting until blade is just above sample. Make a sample cut by pressing up on the lever to move the blade towards the sample, then releasing the blade just before it hits the sample. The blade will continue forward.
    - The goal is to get a thin section of sample. Don't lower the blade too much and cut a large chunk of your sample!
- Once you have made your first cut, catch your sample floating in the water with the paintbrush and transfer it to one of the wells in the 12-well cell culture plate.
- Continue cutting your sample. Turn the dial to cut 120um (1 turn=100um). Fish out samples with the paint brush and add to well.

Staining for microscopy:

- Once you have made about 20 sections, remove water from the sample well and fill the well halfway with toluidene blue. Swirl and count to 10. Add the same volume water, swirl and count to ten again. Remove stain and rinse with water at lease twice.
- Move samples onto slide (you can get about 8 sections per slide). Carefully dab off water using a kimwipe. Add 2 or 3 drops 50% glycerol and cover with coverslide.

If samples appear to have popped out of agarose, change the blade angle (move the block holding the blade up towards you slightly) or try slightly thicker sections (150um).