

PROTOCOL:

Block Trimming for TEM

Whether you are working with BEEM® capsules, gelatin capsules, or flat embedment molds, the first order of business is removing excess resin to expose the tissue. For samples nearer the tip, you can use either a diamond trim tool, older diamond knife, or glass knife. However, if the sample is deeper in the resin and a significant amount of resin needs to be removed, start with a razor blade.

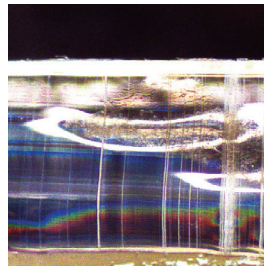
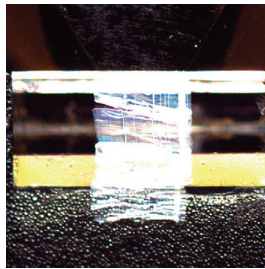
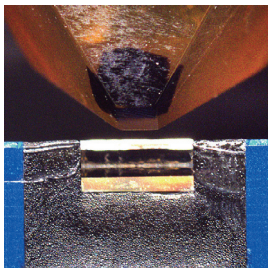
Directions

Equipment Used: Microtome

1. Secure the block in appropriate specimen chuck.
2. Connect to microtome.
3. If the sample is near the surface use...
a diamond trim tool,
an older diamond knife, or,
a glass knife
...to expose the sample, then **proceed directly to Step 8.**



Specimen in chuck

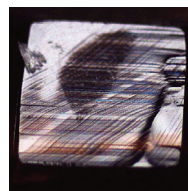
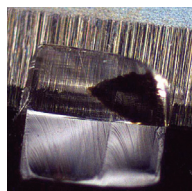
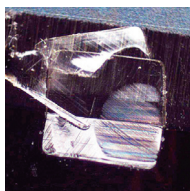
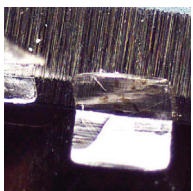


Images show using an older diamond knife to trim.

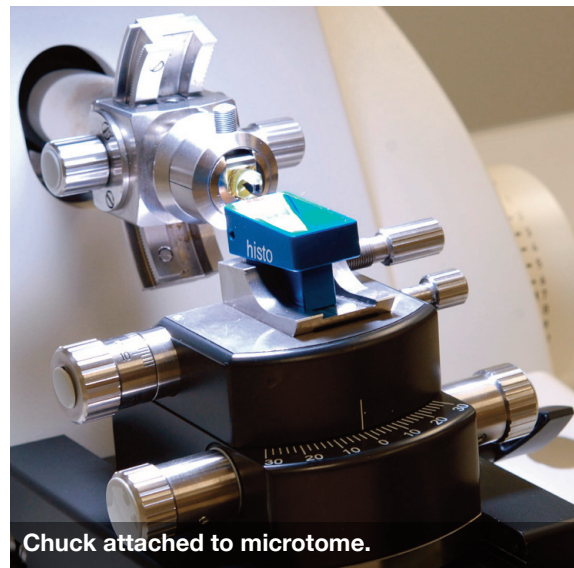
4. If the sample is deeper use a razor blade to get down to the sample by cutting thin, flat sections from the top until the sample is exposed.
5. If a razor blade was used the block face must be faced off with sectioning knife.

Trimming Sequence

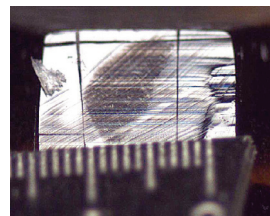
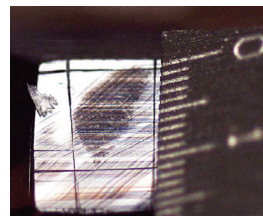
Left to right: from beginning, with no specimen, to the last one, slicing into specimen.



6. Mount sample chuck and knife in the microtome and set specimen and knife arcs to 0°
7. Slowly, using the manual knife advance, cut into the block take cuts until the entire block face is smooth.
8. Observing the block face and determine where you want to take the thick section from. Decide on size and orientation, top, bottom, width, and height.



Chuck attached to microtome.

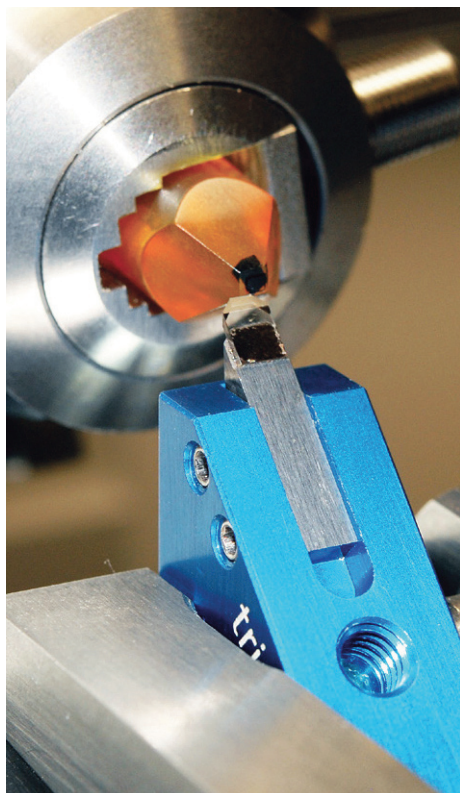


Observing block face to determine orientation.

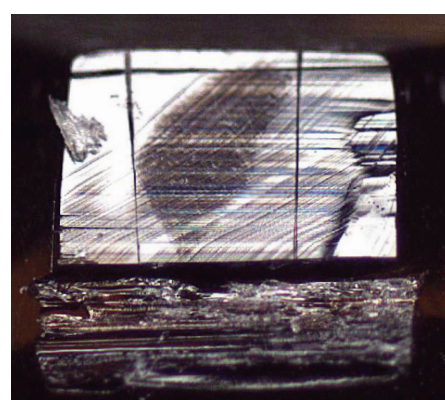
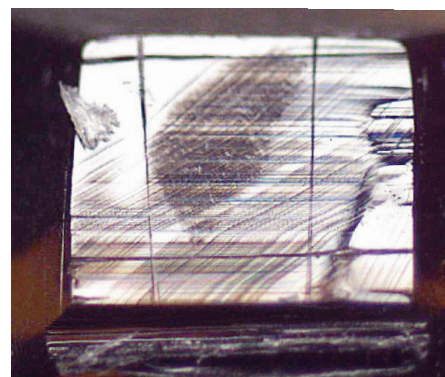
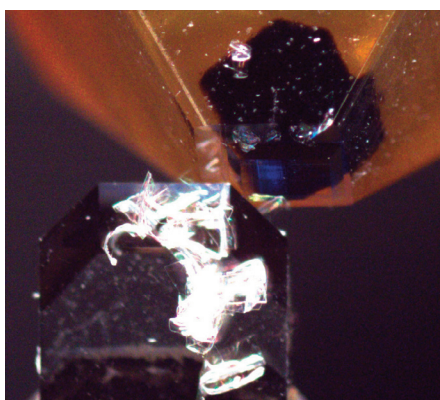
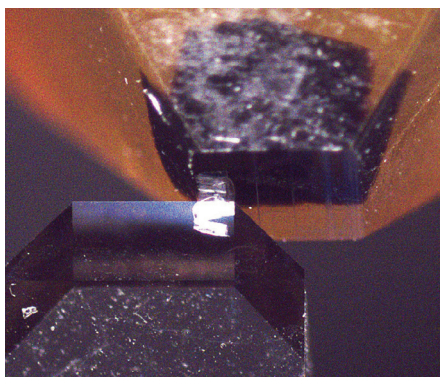


Directions (continued)

9. The most important trimming cuts are the bottom of the block face which will be the leading edge and the top of the block which will be the trailing edge. They must be parallel.



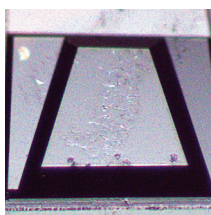
Trimming block face using a DiATOME trim tool.



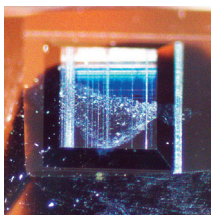
Trimming block face with a razor blade.

10. The trapezoid shape is the classic block face but square, extended rectangle, or even triangles can be used. When sectioning the wider part of the block face should be sectioned first. If cutting an extended rectangle orient it long and tall relative to the cutting direction and knife edge.

Block Face Shapes



Trapezoid



Square



Extended Rectangle

EMS Catalog supplies used	Cat. No.
Single Edge Blades	71974
Long Blades	71930
3mm Perfect Scale	70617-10

DiATOME Catalog supplies used	Cat. No.
DiATOME trim tool 45	TT-45
DiATOME 6mm Histo Diamond Knife	60-HIS