

In general, we find that a well-cleaned, standard 1mm glass slide with a #1 cover slip provides the best results. It is often advantageous to seal your cover slips with clear finger nail polish to optimize your sample image. The goal of sealing the cover slips, primarily with biological samples, is to prevent the drying of cells and tissue during transit.

Preparing Biological Samples

Bacteria

To prepare bacterial samples, add 2-10 microliters of an aqueous suspension onto the slide, place a cover slip on the slide, and seal.

Cells

Before the demonstration, allow enough time for cells to grow and mature. We recommend you prepare cells on cover slips. At the time of imaging, add a drop of culture medium onto the slide, and then turn cover slips over onto the slide. If Labtek chambers are used, be sure to remove chambers before cover slipping. If cells are growing in suspension, grow your cells on cover slips, add a drop of culture medium onto the slide, and then turn cover slips over onto the slide.

Cells can be imaged live on a glass slide or fixed on a slide with a fixative such as Vectashield or Permount.

Cells can be temporarily fixed by placing approximately 5 microliters of cells and solution on a glass slide, cover slipping, and then sealing the edges with clear fingernail polish.

Tissues

For tissue samples, it is imperative that you slice your sample as thinly as possible. While less than 50 microns may be imaged, for premium results, we suggest preparing a sample that is less than 10 microns. Be certain to apply a drop of medium or saline to eliminate air bubbles and then cover slip your tissue sample.

If tissue is paraffin embedded and mounted on a glass slide we suggest melting off the paraffin layer, submerging in xylene (to remove any remaining paraffin), then adding a mounting media.

Tissue can be cryosliced (frozen tissue) or microtomed (paraffin-embedded fixed tissue).

Tissues can be stained if desired, but is not required.

Preparing Material Samples

Particles – For metals and polystyrene, or other similar materials, apply 2-10 micro liters of an aqueous or oil suspension onto a slide and cover slip. If in powder form, you must first suspend the sample in water or oil.

Emulsions – Apply a drop or two of emulsion to the slide, then cover slip. If this is still too concentrated, attempt to dilute the sample in immersion oil.

Miscellaneous Materials – Other material in bulk form should be sliced as thinly as possible. Apply a drop or two of medium or saline to eliminate air bubbles and then add a cover slip. If you have questions, or need more detail for your specific samples, please feel free to contact any member of our team for further assistance.