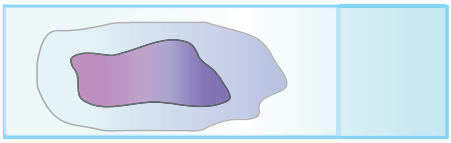
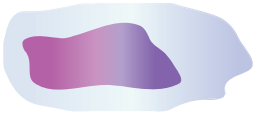
Protocol ♦ Tissue Transfer from Archived Samples

To laser microdissect and analyze tissue from archived samples on glass slides, the tissue first needs to be transferred to a MMI Membrane Slide. This can be easily accomplished using the following protocol. During and after transfer the morphology of the sample is maintained, and generally, there is no need for restaining. The use of mounting media causes the release of tissue from the glass slide. Subsequently, the tissue can be re-mounted on a MMI Membrane Slide.

Remove cover glass

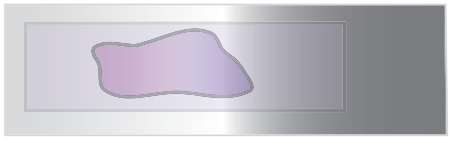


Add mounting medium, heat for 1 h to 60 °C, incubate for 1 h in water bath



Remove tissue with forceps

Place tissue on MMI Membrane Slide, dry at 60 °C for 1 h



Wash off mounting medium with Xylene

Materials:

- Tissue samples on glass slide
- MMI Membrane Slides (PN: 50102, 50103)
- Mounting medium (e.g. Krystalon™ (Sigma Aldrich), Entellan® (Merck) or Shandon™ Consul-Mount™ (Thermo Scientific)
- Pipette
- Forceps
- Fume hood
- Oven
- Water bath

Method:

1. Remove the glass cover from the archival slide using the same solvent, which is the major ingredient in the mounting medium (in most cases this is either xylene or toluene). If there is no coverslip, proceed to the next step.
2. Dispense a few drops of mounting medium onto the tissue section. Allow to dry at 60 °C for approximately 1 to 1.5 hours.
3. Place the slide covered with mounting medium in 60 °C water bath (nuclease-free water) and incubate for 1 hour (or more if needed).
4. Now, the embedded tissue section can easily be removed from the glass slide using forceps.
5. Place the tissue section onto the MMI Membrane Slide and make sure there are no air bubbles between the membrane and the tissue section (Hint: Re-dip the section in water and repeat the oven incubation. When the water starts to dry, the section will flatten out).
6. Dry the MMI Membrane Slide with the tissue at 60 °C for 1 hour.
7. Under the fume hood, gently pipette xylene over the section to remove the mounting medium.
8. Allow the slides to dry at room temperature.

Notes:

- *Longer than the above mentioned incubation in water may bleach water-based stains and could require restaining.*
- *Cytospins and tissue sections mounted on super-frost plus or other special adhesive glass slides may result in a reduced transfer success rate.*
- *For tissue sections that are too big to fit onto a single membrane slide, use a scalpel to cut the excess tissue and reposition on a second slide.*
- *This protocol may not be appropriate for RNA work unless the sample is fixed in formalin or similar.*
- *In case you switch from a water-soluble mounting to a water-free mounting solution, we recommend passing the slide through a series of baths with ascending alcohol concentrations after removing the cover slip, e.g. water - 50 % alcohol - 70 % alcohol - 80 % alcohol - 90 % alcohol - 96 % alcohol - Toluene/Xylene/Xylene subsitute. Then dispense mounting medium onto the section. Now the mounting medium should infiltrate the section instead of just overlay it. Allow to dry at 60 °C for approximately 1 to 1.5 hours (or at room temperature over night) until the mounting medium gets hard. Proceed with step 3.*