

These probes are designed for laboratory research only and they are not approved for use in humans.

#### **Introduction:**

A new microdialysis probe must be prepared prior to an experiment. The microdialysis probes are warranted for a single use but may be used again until the membrane is no longer viable or another probe component is damaged.

#### **The membrane:**

The membrane on MAB 4.PES series of probes is a 6 000 Dalton's cut-off PES (Polyether Sulphone) membrane. This membrane is dry but it stands getting wet, dried out and wetted again repeatedly without loosing in performance. Membrane outer diameter is 0,24 mm.

**NB.** The white material that is visible at the probe tip is a part of the membrane. The active microdialysis membrane lies behind this material, which serves as a stabiliser for the membrane itself.

#### **Probe preparation:**

A used probe can be dry or wet depending on how it has been stored. If the probe has been stored dry it is important to wet the membrane properly. We recommend the following procedure either way.

#### **Start up procedure:**

1. Prepare a reservoir with filtered, degassed perfusion fluid for the MAB 20 or, if using a syringe pump such as the MAB 40, fill a microdialysis syringe with filtered, degassed perfusion fluid at room temperature. Mount the syringe in the pump.

2. Start the pump and make sure that fluid appears at the outlet or at the tip of the syringe needle. Stop the pump.

3. Take out a probe from the box by lifting it in the protective sleeve. Pull the probe out of the protective sleeve by gripping the cannulas sticking out while pressing the protective sleeve with two fingers using the other hand. This way the protective sleeve is flattened so that the pressure against the probe head disappears, making it easy to withdraw the probe. Ensure that the probe is pulled out straight, avoiding the membrane to touch the inside walls of the sleeve.

4. Mount the probe in the Probe Clip attached to the In Vitro Stand.

5. All connections are done by using FEP-tubing and Tubing Adapters. Cut the desired length of tubing by using a razor blade.

6. Slide Tubing Adapters and tubing onto the inlet and outlet cannulas of the probe. The cannulas should, in all connections, touch the tubing with no dead space in the connection.

**Inlet = Green tubing (Short Cannula), Outlet = Brown tubing (Long Cannula)**

7. Fill the vial in the In Vitro Stand with water, Ringer's solution or other desired perfusion fluid. Immerse the membrane.

8. Connect the probe inlet to the MAB 20 or the syringe cannula, using the Tubing Adapters.

9. Start the pump at 2 µl/min. Let it run for a few minutes. This is not a flush cycle but merely to establish that there is proper flow through the probe. The probe is now ready for use. (Check that perfusion media comes out at the outlet cannula. If for some reason it does not there may be some obstruction inside the probe. Try reversing the flow path temporarily by connecting the pump to the probe outlet for a few minutes only. When flow through the probe is established switch back to the original flow path.)

10. Set the pump to the flow rate desired and connect the tubing on the outlet side to fraction collector, swivel, etc.. Check for leaks and air bubbles.

#### **Storage:**

When the experiment is complete, mount the probe in the probe clip and lower it into a vial filled with clean distilled water. Rinse the probe thoroughly by perfusing at 2 µl/min using clean distilled water.

A. The probe may now be stored in the water until next time of use.

B. The probe may also be put back into the protective sleeve for dry storage.

**Note:** Ensure that filtered and degassed perfusion fluid is used at all times.

#### **Sterilisation:**

The MAB 4.PES probes are autoclavable. Method to use is "Saturated steam sterilisation at 121°C". Place the probe or probes, with the plastic sleeves on, in an autoclaving bag and seal the bag. Do not wet the probes prior to sterilisation but sterilise them as they come from the box. When the probe is to be used take it out of the bag and out of the protective sleeve.

#### **Guide cannulas:**

The guide cannula to use with the MAB.4.PES probes is the disposable IC type only.

#### **Warranty:**

MAB probes are warranted to be free from manufacturing defects and viable for a single use. Re-use of the probes after insertion into tissue or repeated handling is not guaranteed since wholly dependent on the skill of the independent user. Microbiotech/se AB will not be liable for any personal injury, property damage, or consequential damages of any kind whatsoever arising from the use of the probe. This warranty does not cover damage to membranes or cannulas through improper preparation, inappropriate connections or faulty handling by the user. The foregoing warranty is in lieu of all other warranties expressed or implied but not limited to the implied warranties of merchantability and fitness for a particular purpose.

Version I