Araldite 502 Kit

#E13900

Araldite 502 is an epoxy resin embedding medium, which yields a light gold color block. Tissues to be embedded in Araldite 502 can be dehydrated with most commonly used organic solvents. However the application of a transitional solvent, such as propylene oxide, is advisable because epoxy resins are more soluble in propylene oxide.

Recommended Procedure

Fixation

Tissues can be fixed in a wide range of fixatives. One of the most commonly used fixatives is an aldehyde (i.e.: glutaraldehyde) followed by osmium tetroxide.

Dehydration

There are many different dehydration schedules that can be followed. A typical one is as follows:
70% Ethanol for 10 minutes
100% Ethanol for 10 minutes
100% Ethanol for 15 minutes
100% Propylene Oxide for 15 minutes
100% Propylene Oxide for 15 minutes
NOTE: Longer times may be required for some samples. If Propylene Oxide is not available Acetone can be used.

Mixing Instructions:

Araldite 502	20 ml
DDSA	22 ml
DMP-30*	0.63-0.84 ml

FOR LARGER BATCHES INCREASE EACH COMPONENT PROPORTIONALLY
**For better penetration and stability BDMA is recommended in place of the DMP-30.*

The quantity of BDMA which is required is 1-1.2 ml.
Slight variations of the accelerator (DMP-30 or BDMA) will drastically affect the color and brittleness of the block.

Prior to measuring and mixing the resin and the anhydride should be warmed (60°C) to reduce their viscosity. Thorough mixing is imperative to be able to achieve uniform blocks. The final block, can be made harder by replacing some of the DDSA with NMA (0.5ml of NMA for each 1.0ml of DDSA).

Although the mixture can be stored for up to 6 months at 4°C it is highly recommended that freshly prepared embedding medium always be used. When mixture is stored it should be warmed thoroughly prior to adding the accelerator.

Infiltration:
It is recommended that for all of the infiltration steps a specimen rotator be used.

- Drain the tissue of most of the propylene oxide, leaving a little so the tissue does not dry out.
- Replace the solvent with a 1:1 solution of propylene oxide:embedding medium and allow it to stand for at least 1 hour at room temperature.
- Remove the mixture, replace it with 100% embedding medium and leave for 6-12 hours at room temperature.

Embedding:
This may be done in embedding capsules (E70020) or a flat embedding mold (#E70900).
Transfer each sample to a dry capsule or mold and fill the mold with embedding medium. Cure the medium in an oven at 60°C for at least 16 hours. Better sectioning properties of certain samples may be achieved if a time of 24-48 hours in the oven is used.
Blocks can be trimmed and sectioned after the blocks return to room temperature.

References
Finck, H. (1960), J. Biophys. Biochem. Cytol. 7, 27-30.
Luft, J.H.(1961), J. Biophys. Biochem. Cytol. 9, 409-414.
Glauert, A.(1991), Microscopy and Analysis, September; 15-20.