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# INSTRUMENT STANDARD OPERATING PROCEDURE MANUAL

## College of Medicine



SAFETY AND LABORATORY COOMMITTEE, C.O.M, K.F.U.

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**Document History**

| Document Section | Details of Amendments | Date | Modified by (Initials) |
|---|---|---|---|
| SOP | First Draft on SOP for the operation of automated microwave tissue processor (Leica- em amw ) | | |
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## 1. OBJECTIVE

- The document describes the operation of automated microwave tissue processor (Leica- em amw )

## 2. SCOPE

**EM ATUOMATED MICROWAVE TISSUE PROCESSOR (LEICA- EM AMW )**

- Full automated software processor system with microwave.
- This is a tissue processor for preparing tissues for electron microscopy. Small slices of Glutaraldehyde fixed tissues (1 mm.thick slices).
- Post fixed with OsO4, dehydrated by acetone, or ethanol.
- Embedded in plastic resins (e.g. Epon -Araldide).

## 3. RESPONSIBILITIES

- It is the responsibility of designated personnel in the lab to train staff and students on this procedure and to ensure adherence to this procedure under supervision.
- It is the responsibility of designated personnel (staff or Student) to follow the instructions of this procedure under supervision.

## 4. REFERENCES

- Lecica EM AMW operating manual. (Version 16208032 11/2010)

## 5. DEFINITIONS

- EM AMW unit programming software (99 programes).
- Temperature range: RT to +100 C.
- 3 different MW controls: Selectable for each processing step.
- Sample capacity : 40 samples/processing run. and 20 samples/polymerization run.
- Processing capacity : Up to 20x20 vials/cycle.
- Reagent consumption: 10ml./vial.
- Basket stem assembly and Disposable processing baskets, small, 4 divisions .
- Loading plate.
- EM vials (20ml),100 pieces with vial caps.
- Carousel complete with vial sealing assembly.
- Flat embedding polymerization forms with 4 divisions.

## 6. SAFETY PRECAUTIONS

- ☐ Use well ventillated Fume hood for toxic fumes.
- ☐ Use plastic Googles.
- ☐ Use face Mask.
- ☐ Use Gloves.
- ☐ Handle reagents carefully under the fume hood (e.g. Osmic acid, buffers ( contain Arsenic) and Acetone).
- ☐ A heavy duty polythene bag should be placed in the fume cupboard in an open position for easy disposal of contaminated waste.

## 7. PROCEDURE FOR OPERATING ATUOMATED MICROWAVE TISSUE PROCESSOR (LEICA- EM AMW )

### 7.1. Turning on the instrument:

- ☐ **Turning on the power supply**

### 7.2. Software Operation.

### 7.3. Steps of the Procedure

- ☐ Switch on the instrument (mains switch on the rear) .
- ☐ Instrument name and software version are displayed (LEICA- EM AMW)
- ☐ Fit the vials to the reagents loaded carousel.
- ☐ Specimen Loading EM baskets.
- ☐ With left mouse click, open the program list and select a program (e.g. Prog .1 ,2 etc)
- ☐ Selected program is displayed.
- ☐ Press START.
- ☐ Program run is indicated by the red transmitting symbol on the instrument status and by the green ball shown here on vial number one. Which moves according to the programme status.
- ☐ At the end of the programme unload the samples with closed MW-lid-best to avoid any resin spillage.
- ☐ Preparing a polymerization run: Fill seven polymerization forms with resin and add to the middle five the specimens.

  Up to 20 specimens can be polymerized in one run.Take the polymerization stem and pick up the forms,starting and finishing

  With a form without samples.Place the stack on the carousel (position No.1) and load into the instrument.

  Open an existing program (POLY EPON for example) Select PO for polymerization program.

  Click on START button to run the polymerization program.

### 7.4. Turning off the Instrument

- ☐ Unload the samples (in the fume cupboard)

- ☐ Unclip the stack of baskets from the specimen arm. and disassemble in the reverse of the loading procedure described.
- ☐ Turn off the software.
- ☐ Turn off the control panel.
- ☐ Turn off the electric main power source.

**7.5.** Warning

**Prepare chemical solution.**