

Title	Leica TP1020 Written Instructions School of Medicine Faculty Health		
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Written instructions for the use of the Leica TP 1020 tissue processor

The following document identifies the instructions and safety procedures required when using the Leica TP1020 tissue processing equipment.

Description of the Leica TP1020:

The Leica TP1020 is an automatic tissue processor used for the dehydration and infiltration of tissue samples.

Histological tissue samples are placed in embedding cassettes, then into a basket and moved through stations containing fixatives, alcohol, solvents and paraffin wax.

Safety Precautions:

1. Hazardous substances are used in this process; please consult appropriate MSDS for Histolene/Citolene, ethanol and paraffin wax before using.
2. Prepare fixatives and solvents in a fumehood
3. PPE– nitrile gloves, laboratory coat or gown, safety glasses
4. Paraffin wax is used at 70°C – handle with heat resistant gloves
5. Do not allow liquids to come into contact with electrical connections or the interior of the instrument

Consumables:

The histology facility will supply all reagents and consumables needed, users need only supply their samples.

As all consumables and reagents are being supplied by SOMHisto, there will be a charge associated with the use of the Tissue Processor and embedding machine.

Please refer to the current price list for a breakdown of these charges.

[Histology costs](#)

[SOM Histology Facility link](#)

SOMHisto will supply the following:

1. Plastic histological cassettes
2. Plastic mounts
3. Ethanol
4. Histolene or equivalent
5. Paraffin wax
6. Dissection equipment – e.g. forceps, scalpel blades and handles

Preparation of samples:

Please consult appropriate literature for your samples.

Programs:

- #1 – Mouse and human tissue standard protocol
- #2 – Porous scaffolds with cells protocol
- #3 – Miscellaneous
- #4 – Gut
- #5 – Zebrafish embryo protocol
- #6 – Adult Zebrafish
- #7 – Mouse Skin
- #8 – Eye/Lens
- #9 – Pancreas (KAM protocol)

Simple instructions:

Getting started

1. Turn on the tissue processor – power button at the back of the instrument. You will need to allow a few hours for the paraffin wax to melt before you can use the machine
2. Turn on the vacuum before starting selected program – press the  button
3. Open the processor doors and lift the carousel cover (lid) by pushing the  button (up arrow)
4. Ensure that all reagent stations have been topped up – PBS, ethanol, Histolene, paraffin wax – observing the minimum and maximum level indication marks. Do not overfill!
Changing the solutions should be done in the fumehood.

5. Tissue basket:

- a. Lowering: press  button
- b. Raising: press  button
- c. Moving to next station: press **CIRCLE ARROW** button



6. Fill the tissue basket with cassettes or capsules contained samples and rotate to starting station by using the **CIRCLE ARROW** button.

(E.g. if tissues have already been processed in PBS, you may need to start at station 3 – 30% ethanol)

Note: Basket will only hold up to 80 cassettes if stacked properly. It is suggested that you process no more than 50-60 samples at a time to ensure proper coverage of reagents during processing.

Immediate start

7. Press **START** button
8. Press **PROGRAM** button and select program by using the + (plus) and – (minus) buttons
9. Press **START** button again – this initiates the cycle, lowering the lid automatically
10. If warning W-05 is displayed, there will be insufficient time in the processing cycle for the wax to melt.
 - a. Turn on the processor several hours before starting your cycle. When the wax has melted, override the warning code. To start processing. Press **KEY** and **START** simultaneously, or
 - b. Follow Delayed Start procedure

NOTE: The THREE ARROW button is used to start and stop the carousel (tissue basket) up and down movement.



End of process

11. Processing cycle is completed when **DONE** and the position station number of the basket is displayed. This is then followed by a sound signal every 30 seconds
12. Press any key to confirm the message and turn off the sound signal.

Remove specimens

13. Lift carousel
14. Allow tissue basket to drain
15. Lift the tissue basket slightly with your hand and pull it out of the basket holder in a horizontal movement and place in glass dish
16. Lower carousel

Upon completion of your work

1. Ensure that all reagent stations have been topped up – PBS, ethanol, Histolene, paraffin wax – observing the minimum and maximum level indication marks. Do not overfill!
2. Clean the rims of all stations and the seal of each lid
3. Wipe the control panel clean
4. Ensure the Basket is **NOT LEFT IN THE PARAFFIN WAX** (STATION 12). Move the basket to station 1 (PBS) before you switch off the machine.
5. CLEAN UP ANY WAX SPILLS

Pause/Resume processing

- a. To pause processing, press PAUSE/CONT.
- b. To resume processing, press PAUSE/CONT again



Stopping or aborting a process

- a. To stop a processing cycle, press STOP.
- b. To resume processing, press START, or
- c. To abort processing, press STOP again
- d. Press  button to stop up and down movement of basket



The manual (green folder) is located in the drawers below the bench or can be downloaded from the Leica website – document Leica_TP1020_IFU_2v9c-en [Leica Biosystems Leica-tp1020](#)

Delayed start

See section 12.1.2 of the manual

Use this procedure to

- a. Allow sufficient time for wax to melt, or
- b. Ensure process completion occurs at a suitable time to remove tissue cassette and place in wax bath

Setting up a program

See section 6.2 of the manual

Do not alter any of the permanent programs. If you need an alternate protocol, please use Program #3 only.

ADDITIONAL NOTES

**Instruction Manual (green folder) located in drawers under bench