



Leica EM GP2 Independence Test Evaluator Checklist – CryoEM Merit Badges

Supervising Staff: _____

Date: _____

Trainee: _____

Preparing the LeicaEM GP2

- Identify the following:
 - Power Switch
 - Screen
 - Humidifier
 - Environmental Chamber
 - Freezing Station
- Turn on the Leica EM GP2.
- Fill humidifier with ___ mL water (until prompt turns off).
- Close the valve on the humidifier hose and store on clip.
- Empty the drip/drain tray.
- Place the cryogen cups in the freezing station.
- Add LN2 to the freezing station until the temperature reaches -175°C.
- Fill the ethane cup using the ethane fill lid.
- Place new filter paper on the blotting pad.
- Set humidity, temperature, and process parameters:
 - Humidity: ___% RH
 - Temperature: ___ °C
 - Cryogen Temperature: ___ °C
 - Cryogen GN2 flow: ___ %
 - Blotting Time: ___ s
 - Horizontal blot position: ___
 - Vertical blot position: ___
 - Rotation: ___
 - Test blot parameters with blank grid

Evaluator Notes:

Freezing Cycle

- Add more LN2 to cooling chamber when needed.
- Check that temperature and humidity have reached target.
- Check that lids are removed from cryogen cups before plunging.
- Place new grid-box under LN2, in holder.
- Pick up glow-discharged grid with the EM GP2 tweezers.
- Press “Load Forceps” and attach tweezers in the correct orientation to the plunge-rod.
- Press “Load specimen” to lower the chamber to the blotting position.
- Apply sample to the grid by placing pipette through loading port on the side of freezing chamber.
- Press “Blot” to start the automated blotting process.
- If you did not enable automated plunging, press “Plunge” to plunge the grid.
- After the environmental chamber lifts, remove the tweezers from the plunge rod and transfer the grid to the LN2 cup and into your grid box.
- Repeat for all grids.



Evaluator Notes:

Cleaning Up

- Ensure the Leica EM GP2 tweezers are clean, dry and stored with the tip protector attached.
- Empty the humidifier by aspirating with an empty syringe through the fill tubing.
- Empty the drip tray.
- Remove and dispose of the used filter papers and store the magnetic ring.
- Remove and store the cryogen containers in the appropriate location.
- Start the bake out.
- After bake out is complete, power down the instrument (or ask staff to do this for you).

Evaluator Notes:

Overall Evaluator Notes:
