THE UNIVERSITY OF QUEENSLAND
AUSTRALIA
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School of Biomedical Sciences

Standard Operating Procedures

Title	Use of 65ºC wax vacuum oven	
Date	09/10/2025	
Location	Bld: 65	Room: 210
Equipment Custodian	Contact: Darryl Whitehead	Expert User: Darryl Whitehead

Task	The wax vacuum oven is primarily used to create a vacuum to draw out air bubbles from within processed tissues, wax, and tissue cassettes.
Pre start checks	• Complete SBMS OH&S Induction and local histology induction • Obtain equipment specific training provided by a Senior histologist • Read and understand SOP and Risk Assessments associated • Book appropriate device using the SBMS Online Booking System (this oven can be booked as “Manual tissue processing”. • Always check the oven chamber is not pressurised before proceeding. Turn the Vent valve both right and left. Thus, not fully open or closed. Therefore, the chamber cannot be under pressure; If unsure, always consult Histology staff. • Check the internal oven chamber does not have hot wax buildup. • Check the seal of the chamber door is clear, wipe any hot or dried wax away before proceeding. • Check the container holding your tissues/ cassettes will fit easily into the oven.
Safety considerations	**Personal Protective Equipment (PPE):** • Lab coat or gown • Fully closed shoes • Gloves • Gloves for heat protection • Safety glasses as required **General precautions**: • When using hot wax during tissue processing, there is a chance of hot wax burns. If wax feels too hot, always wear heat protective gloves to handle containers full of hot wax. If a burn occurs, remove gloves and run the affected area under cold water for 20 minutes. • Always check the oven chamber is not pressurised before proceeding. Turn the Vent valve both right and left. Thus, not fully

	open or closed. Therefore, the chamber cannot be under pressure; If unsure, always consult Histology staff. • Ensure there is enough bench space next to the oven to transfer wax and transport hot wax beakers. **Emergency Procedures:** If a burn occurs, remove gloves and run the affected area under cold water for 20 minutes. Seek immediate medical advice for severe burns. In the case of emergency, all incidents should be reported to the Facility manager, Ext 51929, and/or Security 53333. All incidents should be reported to the Facility Staff and Manager, Ext 51929, Safety Coordinator, Ext 53221, and/or Security 53333. All injuries must be reported to SBMS HSW Management, Ext 53221 or 51269, Building Management, Ext 53105. All incidents and injuries must be recorded in the UQ Incident and Injury Database.
Procedure	1. **Do NOT open the oven door first.** 2. Always check the oven chamber is not pressurised before proceeding. Turn the Vent valve both right and left. Thus, not fully open or closed. Therefore, the chamber cannot be under pressure; If unsure, always consult Histology staff. 3. When sure chamber is not pressurised, open the latched chamber door. 4. Carefully fill your glass container with fresh hot wax from the 65°C oven directly underneath the vacuum oven. 5. Place your glass container into the vacuum oven and latch the door closed. 6. Close the Vent valve by turning the valve clockwise until closed. 7. Open the air pump Vacuum valve by turning counter-clockwise until gauge registers above 60 kPa. 8. Watch the pressure gauge carefully. When the pressure is between -60kPa and -70kPa, close the air pump valve (clockwise). 9. Check the pressure gauge is stable, and no air is escaping out of vents or via the chamber door. 10. Leave tissues in chamber for desired time length. Leave a sign up with your name and contact number if you leave the lab. 11. When time in chamber is up, depressurise the chamber by opening the Vent valve (turning counter-clockwise). You will hear hissing of air escaping and wait for the gauge to register 0 kPa.

	12. When chamber has been depressurised, open the double-latched chamber door and remove your samples. Wipe up any hot wax from the chamber. 13. Pour off excess hot wax into a glass container and place back in the 65°C oven under the counter oven. Your tissues are ready for embedding.
Legislative requirements	AS 2243.6 Safety in laboratories, mechanical aspects

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