



Australian Government

MSL973020 Perform histological procedures

Release: 1

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Modification History

| Release | Comments |
|-----------|---|
| Release 1 | <p>This version was released in <i>MSL Laboratory Operations Training Package Release 2.0</i>.</p> <p>Supersedes and equivalent to MSL973008 Perform histological procedures. Range of conditions removed. Assessment requirements amended.</p> |

Application

This unit of competency describes the skills and knowledge to perform straightforward histological procedures involving processing and sectioning (by hand or rotary microtome) of plant and/or animal tissues in paraffin wax.

This unit of competency applies to laboratory assistants working in biomedical, biotechnology, environmental and education sectors. Personnel will work under direct supervision and have ready access to workplace procedures.

No licensing or certification requirements exist at the time of publication. However, regulations and/or external accreditation requirements for laboratory operations exist, so local requirements should be checked. Relevant legislation, industry standards and codes of practice within Australia must also be applied.

Pre-requisite Unit

Nil

Competency Field

Testing

Elements and Performance Criteria

Elements describe the essential outcomes. Performance criteria describe the performance needed to demonstrate achievement of the element.

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|---|-----------------------|-----|---|
| 1 | Process tissue | 1.1 | Perform pre-use checks to ensure processor is fit for purpose |
| | | 1.2 | Select program and reagents for processing |

- 1.3 Inspect processor reagents for deterioration and adequate volume, and report any items requiring replacement
 - 1.4 Check processor for errors that occurred during processing sequence
- 2 **Embed tissue**
 - 2.1 Check that volume of wax is sufficient for uninterrupted embedding of processor load
 - 2.2 Check that temperature of wax is suitable for embedding process
 - 2.3 Embed tissue in correct orientation
 - 2.4 Apply procedures to prevent cross-contamination between tissues
 - 2.5 Inspect blocks, reject and re-embed items that do not meet quality control standards
- 3 **Cut sections of tissue**
 - 3.1 Label required number of microscope slides in accordance with workplace traceability requirements
 - 3.2 Check the flotation bath is ready and satisfactory for use
 - 3.3 Cut representative sections at the required thickness observing prescribed safety measures
 - 3.4 Float sections onto water bath to flatten tissues
 - 3.5 Pick up sections onto microscope slides ensuring identification on slides matches that on the block
 - 3.6 Apply procedures to prevent cross-contamination between samples
 - 3.7 Compare the blocks and sections ensuring the tissue on slides matches that in the blocks
 - 3.8 Inspect sections and reject any that do not meet quality control standards
- 4 **Stain sections**
 - 4.1 Select reagents specified in the method

- 4.2 Stain sections according to the method
 - 4.3 Examine sections microscopically to ensure expected staining outcomes have been achieved
 - 4.4 Mount sections to ensure long-term preservation
 - 4.5 Attach permanent labels giving specimen details according to workplace traceability requirements
- 5 **Maintain a safe work environment**
- 5.1 Ensure personal safety and minimise cross-contamination through the use of personal protective equipment (PPE)
 - 5.2 Handle chemicals and sharps safely

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Equivalent to MSL973008 Perform histological procedures, Release 1.

Links

MSL Laboratory Operations Companion Volume Implementation Guide is available from VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa>