



Australian Government

MSL974025 Prepare tissue and cell cultures

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 MSL974011 Prepare tissue and cell cultures. Foundation skill information added. Range of conditions removed. Assessment requirements amended.</p>

Application

This unit of competency describes the skills and knowledge to prepare primary tissue cultures for applications, such as maintenance of animal cell lines and propagation of plants by tissue culture, and basic subculture procedures. Personnel are required to manipulate equipment and materials and samples to prevent contamination at all preparation stages. They will have ready access to workplace procedures and will work under direct supervision.

This unit applies to technical assistants working in laboratories in the biomedical, environmental, biotechnology and education industry sectors.

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

MSL973016 Perform aseptic techniques

Competency Field

Testing

Elements and Performance Criteria

Elements describe the essential outcomes.

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

1 Work safely

<p>Elements describe the essential outcomes.</p> <p>according to the legal and regulatory framework</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element.</p>
<p>2 Prepare and test cell and tissue culture media</p>	<p>1.1 Identify hazards and workplace controls associated with the sample, preparation methods, reagents and equipment</p> <p>1.2 Select, fit and use personal protective equipment (PPE)</p> <p>1.3 Address hazards and incidents as they arise</p> <p>1.4 Maintain a chain of custody, traceable to the worker, for all cells and tissues</p> <p>2.1 Select and confirm media specifications and processes/methods</p> <p>2.2 Prepare culture media to suit the application</p> <p>2.3 Sterilise culture media and check for sterility</p> <p>2.4 Perform quality control checks to ensure that culture media is fit for purpose</p> <p>2.5 Store culture media in accordance with specifications</p>
<p>3 Prepare tissue or cell cultures</p>	<p>3.1 Select tissue/cell sample to optimise growth and prepare it for culture</p> <p>3.2 Add specified growth agents and/or nutrients</p> <p>3.3 Inoculate culture medium using aseptic techniques</p>
<p>4 Monitor tissue or cell culture</p>	<p>4.1 Incubate culture in specified conditions</p> <p>4.2 Monitor growth of culture and record appearance and characteristics</p> <p>4.3 Report presence or absence of contamination</p> <p>4.4 Subculture the culture to continue the cell line</p> <p>4.5 Dispose of biohazardous and other laboratory waste safely</p>

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

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|---|-------------------------|-----|--|
| 5 | Maintain records | 5.1 | Maintain records of batches of media |
| | | 5.2 | Complete records of tissue cultures so that they are retrievable, legible and accurate |
| | | 5.3 | Complete records in accordance with information management, records, quality system and legal requirements |

Foundation Skills

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

- Learning skills to:
 - monitor cell growth, check growth rates and recognise problems, such as contamination of media by bacteria (e.g. Mycoplasma), fungi and other plant or animal tissue
 - identify expected cell types and recognise normal and abnormal cells using an inverted microscope.

Other foundation skills essential to performance are explicit in the performance criteria of this unit.

Unit Mapping Information

Equivalent to MSL974011 Prepare tissue and cell cultures, 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>