



Australian Government

MSL975061 Perform molecular biology tests and procedures

Release: 1

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Modification History

Release 1. Supersedes and equivalent to MSL975034 Perform molecular biology tests and procedures. Changed title in prerequisite unit. Other minor changes in Performance Criteria, Performance Evidence and Knowledge Evidence.

Application

This unit of competency describes the skills and knowledge to isolate, purify, verify and manipulate biomolecules and their products. This work requires close attention to working with small volumes, multiple-step procedures and prevention of contamination. Personnel are required to apply a wide range of molecular biology tests and procedures.

This unit applies to technical officers working in manufacturing (e.g. macro, micro, nanotechnology, pharmaceutical and blood products), food, biomedical (e.g. forensics, pathology and veterinary) and environmental industry sectors. Results are generally interpreted and reported to supervising scientists, medical, veterinary or other responsible officers of a workplace, regulatory authority or legal agency.

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

MSL973027 Perform techniques that prevent cross-contamination

MSL974034 Perform biological procedures

Competency Field

Testing

Elements and Performance Criteria

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Interpret and schedule test requirements	1.1 Review test request to identify samples to be tested, test method and equipment/instruments involved 1.2 Identify hazards and workplace control measures associated with the sample, preparation methods, reagents and/or equipment

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
2. Receive and handle samples	2.1 Register samples in accordance with workplace procedures, recording details that allow accurate tracking and chain of custody traceable to employee 2.2 Match sample provided to accompanying documentation and report any discrepancies in accordance with workplace procedures 2.3 Store samples in accordance with workplace and test method requirements
3. Prepare equipment and reagents	3.1 Set up equipment/instrumentation in accordance with workplace procedures and perform pre-use and safety checks 3.2 Select and collect reagents in accordance with test method requirements 3.3 Prepare and label reagents in accordance with test method requirements
4. Extract, verify and manipulate biomolecules	4.1 Produce/extract biomolecules from samples using appropriate methods 4.2 Prevent contamination of samples by unwanted biomolecules 4.3 Recognise the presence of common inhibitors of biomolecular reactions and take corrective action 4.4 Quantify and qualify biomolecular yields from purified extractions 4.5 Use appropriate techniques to prepare and test a range of biomolecular samples 4.6 Use controls and reference standards to confirm the integrity of biomolecular sample preparation and procedures 4.7 Troubleshoot basic procedure, reagent or equipment problems which have led to atypical data or results
5. Report and communicate results	5.1 Record and/or check data in accordance with workplace procedures 5.2 Follow procedures to ensure traceability of sample from receipt to reporting of results

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

Supersedes and equivalent to MSL975034 Perform molecular biology tests and procedures.

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>