

Title	Perform a restriction enzyme digestion		
Level	6	Credits	3

Purpose	People credited with this unit standard are able to: discuss the use of restriction enzymes; carry out restriction enzyme digest; and interpret results.
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Classification	Science > Molecular Biology
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Available grade	Achieved
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Guidance Information

- All work must be carried out in accordance with the quality management system, documented protocol system or Standard Operating Procedures (SOP) acceptable in a commercial or research laboratory.
- Health and Safety practices must conform to Australian/New Zealand Standard AS/NZS 2243 – *Safety in Laboratories* Parts 1, 2, 3, 7 and 10 available at <http://www.standards.co.nz>.
- Legislation applicable to this unit standard includes:
Health and Safety at Work Act 2015;
Hazardous Substances and New Organisms Act 1996.
- Glossary
Laboratory procedures refer to documented systems or processes of operation which may be found in a SOP manual, quality management system, or in protocol system documentation. These procedures are external and/or internal laboratory requirements governing laboratory work.
- Recommended for entry: Unit 8050, *Perform electrophoresis*; and Unit 26488, *Determine enzyme activity*.

Outcomes and performance criteria

Outcome 1

Discuss the use of restriction enzymes.

Performance criteria

- 1.1 Restriction enzymes are discussed in terms of their mode of action.
Range 5' 'sticky ends', 3' 'sticky ends', blunt ends, target sequences.

1.2 Restriction enzyme digestions are discussed in terms of their application.

Range restriction fragment length, restriction fragment length polymorphism analysis (RFLP), DNA profiling.

Outcome 2

Carry out restriction enzyme digest.

Performance criteria

- 2.1 Enzyme is handled to ensure activation in accordance with laboratory procedures.
- 2.2 Fragments are produced and visualised by electrophoresis in accordance with laboratory procedures.
- 2.3 Separation of fragments is achieved to allow fragments to be identified.

Outcome 3

Interpret results.

Performance criteria

- 3.1 Results are recorded and analysed in accordance with laboratory procedures.
- 3.2 Interpretation is consistent with results and sample.

This unit standard is expiring. Assessment against the standard must take place by the last date for assessment set out below.

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	22 December 1996	31 December 2014
Review	2	23 November 1999	31 December 2014
Review	3	17 September 2010	31 December 2025
Rollover	4	27 January 2015	31 December 2025
Review	5	27 September 2018	31 December 2025
Review	6	30 November 2023	31 December 2025

Consent and Moderation Requirements (CMR) reference

0113

This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.