Title	**Perform electrophoresis**		
Level	**5**	**Credits**	**3**

Purpose	People credited with this unit standard are able to: describe an electrophoretic technique; carry out an electrophoretic technique; and interpret results.

Classification	Science > Molecular Biology

Available grade	Achieved

Guidance Information

1 All work must be carried out in accordance with the quality management system, documented protocol system or Standard Operating Procedures acceptable in a commercial or research laboratory.

2 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. Particular attention should be paid to the special safety requirements relating to: high voltage, current, ethidium bromide, silver nitrate, ultraviolet light, TEMED, acrylamides, ammonium persulphate.

3 Legislation applicable to this unit standard includes:
Health and Safety at Work Act 2015;
Hazardous Substances and New Organisms Act 1996.

4 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.

5 Recommended for entry: Unit 26117, *Work safely in a science laboratory*.

Outcomes and performance criteria

Outcome 1

Describe an electrophoretic technique.

Range includes one of – agarose, polyacrylamide, cellulose acetate.

Performance criteria

1.1 A technique is described according to factors affecting the separation of molecules.

Range medium, buffers, equipment, electric field, cathode, anode, relative mobilities, reference standards, frictional coefficient, electrophoretic mobility, charge, molecular dimensions.

1.2 Detection methods are described according to the molecules separated.

Range detection methods may include – ethidium bromide, autoradiography, fluorography.

Outcome 2

Carry out an electrophoretic technique.

Range protein, nucleic acid.

Performance criteria

2.1 Medium, buffers, and reference standards are prepared in accordance with laboratory procedures.

Range medium preparation includes – mixing, pouring, laying, comb, dam.

2.2 Samples are prepared using the selected technique in accordance with laboratory procedures.

2.3 Detection method is applied in accordance with the technique.

2.4 Separated compounds are visualised in accordance with the technique.

2.5 Separation of sample components is achieved to allow the sample to be identified and/or quantified.

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.