**Document Number:** SASoM/EQUIP/095.v2

**Title:** Molecular Devices SpectraMaxM2e Spectrophotometer

**Version:** v2

**Author:** Laura Aitken

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|---|---|
| Effective from: | 01/02/2020 |
| Valid to: | 31/01/2025 |

| **SOP History** | | |
|---|---|---|
| Number | Date | Reason for Change |
| v1 | 01/2/2015 | Original |
| V2 | 01/02/2020 | Quinquennial Update |
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## 1.0 Purpose –

The purpose of this SOP is to outline the principles of the routine use of the Molecular Devices SpectraMaxM2e spectrophotometer in Laboratory 248 at the St Andrews School of Medicine (SASoM).

## 2.0 Scope –

This SOP applies to routine use and maintenance of the SpectraMaxM2e within the SASoM.

## 3.0 Responsibilities –

It is the responsibility of all users of the SpectraMaxM2e within the SASoM to comply with this SOP.

## 4.0 Procedure –

The SpectraMax M2e Multi  detection reader is a monochromator based microplate reader that has a 6 well to 384 well microplate reading capability as well as a built in absorbance and fluorescence cuvette port. Dual monochromators allow the selection of any absorbance wavelength between 200 nm and 1000 nm, any excitation wavelength between 250 nm and 850 nm, and any emission wavelength between 250 nm and 850 nm for readings of both microplates and cuvettes. Endpoint, kinetic, spectrum, and multi-point well scanning applications combining absorbance and fluorescence in 6 well to 384 well microplates, as well as endpoint, kinetic, and spectrum applications in absorbance and

fluorescence using cuvettes, can be run with little to no optimization. Typical applications include ELISA, nucleic acid, protein, enzymatic type homogeneous and heterogeneous assays, microbial growth, endotoxin testing, and pipette calibration.

The control panel on top of the machine allows wavelength, temperature and assay type to be changed for quick reads, or most commonly to pre-heat the machine if a specific temperature is required. The drawer button on the control panel opens and closes the plate holder. It is however easier and more efficient to turn on the PC (All users have to be trained before using the Instrument by a member of the Gunn-Moore lab and only then will they be given the user name and password required to switch on the machine's computer) and follow the quick wizard set up. There are also pre-set guides ready to be used for specific assays pre-installed on the software.

The quick wizard setup guides you through which acquisition settings, plate layout, analysis settings and other assay specific settings you would like to use. This guide also allows you to name your samples. When the plate is ready then click the read button.

Data can be saved as both the raw data file (to be edited in the software) and also exported into excel files. Protocol files can be saved as a template for future use.

**5.0 Personal protection –**
Howie coat must be worn at all times.

**6.0 Training –**
All users have to be trained before using the Instrument by a member of the Gunn-Moore lab and only then will they be given the user name and password required to switch on the machine's computer.

**7.0 Related documents –**

7.1 SpectraMaxM2 and M2e Manual (PDF) can be found on the server.

## 8.0 Approval and sign off –

**Author:**

Name: Laura Aitken

Position: Postdoctoral Research Fellow

Signature: Date:

**Management Approval:**

Name: Peter Mullen

Position: Research Fellow

Signature: Date:

**QA release by:**

Name: Alex MacLellan

Position: QA Manager

Signature: Date:

# STANDARD OPERATING PROCEDURE

Please sign below to indicate you have read this S.O.P and understand the procedures involved.

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