SpectraTest Validation Packages

Comprehensive, industry-standard absorbance, fluorescence, and luminescence microplate reader validation

Microplate readers from Molecular Devices are designed to provide consistent performance for many years. In keeping with best practices, reader performance should still be validated and documented regularly, especially in regulated laboratories. Our SpectraTest® ABS2, FL1, LM1, and Multi-Mode Validation Packages provide automated, comprehensive, and traceable validation of optical performance, plus automatic verification of our microplate readers. All SpectraTest Validation Packages include a validation plate, certificate of calibration, user guide, and automated SoftMax® Pro Software protocols to run validation tests.

SpectraTest ABS2 Absorbance Validation Package performance tests

Qualify the absorbance performance of SpectraMax® iD3, iD5, i3, i3x, M2, M2e, M3, M4, M5, M5e, Plus 384, ABS, ABS Plus, and FlexStation 3 readers. Eight different automated tests are provided:

- Absorbance accuracy (linearity)
- Precision (reproducibility)
- Stray light
- Wavelength accuracy
- Wavelength repeatability
- Ultimate dark (0% transmittance)
- Optical alignment
- Baseline noise

KEY FEATURES

- Absorbance validation
- Fluorescence validation
- Luminescence validation
- Automated testing
- NIST and NMI traceability
- Recertification services

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SpectraTest FL1 Fluorescence Validation Package performance tests

Qualify the fluorescence performance of the SpectraMax iD3, iD5, i3, i3x, M2, M2e, M3, M4, M5, M5e, FlexStation 3, Gemini EM, and Gemini XPS readers. Twelve different automated tests are provided:

- Fluorescence lower limit of detection (LLD)
- Excitation wavelength accuracy
- Emission wavelength accuracy
- Excitation wavelength precision
- Emission wavelength precision
- PMT matching (high vs. medium PMT settings)
- Top-to-bottom bias
- Kinetic noise (low signal)
- Kinetic noise (high signal)
- Well-to-well reproducibility
- Relative fluorescence unit (RFU) linearity
- RFU scale ratio

SpectraTest LM1 luminescence Validation Package performance tests

Qualify the luminescence performance of the SpectraMax iD3, iD5, i3, i3x, M3, M4, M5, M5e, L, and FlexStation 3 readers. Fifteen different automated tests are provided:

- Background noise
- Background spike
- Lower limit of detection
- Crosstalk
- Linearity
- Relative luminescence units (RLU)
- Kinetic noise (low signal)
- Kinetic spike (low signal)
- Kinetic drift (low signal)
- Kinetic noise (high signal)
- Kinetic spike (high signal)
- Kinetic drift (high signal)
- Well-to-well precision
- Left-to-right bias
- Top-to-bottom bias

SpectraTest Multi-Mode Validation Package performance tests

Qualify the absorbance, fluorescence, luminescence, time-resolved fluorescence (TRF), and fluorescence polarization performance of the FilterMax®, SpectraMax® Paradigm®, and select cartridges or read modes of the SpectraMax i3, i3x, and iD5 readers. Multiple automated tests are provided including:

- Linearity
- Precision
- Accuracy
- Dynamic range
- Alignment
- Signal to noise
- Signal to background
- Filter checks

Automated for ease of use

All test measurements and calculations are handled automatically by the SoftMax Pro Software protocols. Should any of the measurement parameters fall outside defined limits, a test failure is reported with the suspect parameters identified.

NIST and NMI traceability of SpectraTest Validation Plates

Calibration of the filter standards used for absorbance and fluorescence validation is accomplished through the use of a reader calibrated with primary NIST and NMI standards.

Recertification service

To maintain confidence in the standards, Molecular Devices recommends having validation plates recertified at one-year intervals. ABS2, FL1, and LM1 Validation Plates sent to Molecular Devices for recertification at our ISO 17025 accredited lab are disassembled, cleaned, calibrated, and then returned with a new certificate of calibration.

Additional Validation Tools

In addition to the SpectraTest Validation Packages, we also offer reader IQ/OQ validation, SoftMax Pro Software validation, and FDA 21 CFR Part 11 compliance tools.

Validation packages	Compatible instruments	Part number
SpectraTest ABS2 Absorbance Validation Plate	SpectraMax iD3, iD5, i3x, i3, M2, M2e, M3, M4, M5, M5e, Plus 384, ABS, ABS Plus, FlexStation 3 Requires SoftMax Pro Software version 6.5.1 or higher	0200-6191
SpectraTest FL1 Fluorescence Validation Plate	Gemini EM, Gemini XPS, SpectraMax iD3, iD5, i3x, i3, M2, M2e, M3, M4, M5, M5e, FlexStation 3	0200-5060
SpectraTest LM1 Luminescence Validation Plate	SpectraMax iD3, iD5, i3x, i3, M3, M4, M5, M5e, SpectraMax L, FlexStation 3	0200-6186
Cuvette Absorbance Validation Set	SpectraMax Plus 384, ABS Plus, M2, M2e, M3, M4, M5, M5e	0200-2420
Multi-Mode Validation Plate	FilterMax F3, FilterMax F5, SpectraMax Paradigm, iD5*, i3*, i3x.* Requires SoftMax Pro Software version 7.0 or higher	0200-7200
Gray replacement validation plate case	SpectraTest ABS2, FL1, LM1	5074718

SpectraTest recertification		Part number
SpectraTest ABS2 Plate re-cert		S9200-0186
SpectraTest FL1 Plate re-cert		S9200-0078
SpectraTest LM1 Plate re-cert		S9200-0124
Multi-Mode Validation Plate re-cert		0200-7201
Cuvette Absorbance Validation Set re-cert		Please call technical support

*Specific read modes or cartridges.

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