

SpectraMax i3x Multi-Mode Detection Platform

Explore a wealth of applications in one future-ready system



Benefits

- User-upgradeable application modules including cellular imaging
- Sensitivity across spectrum with Spectral Fusion™ Illumination
- Expanded dynamic range with cooled PMT
- Control and analytics provided by SoftMax® Pro Software



SpectraMax i3x

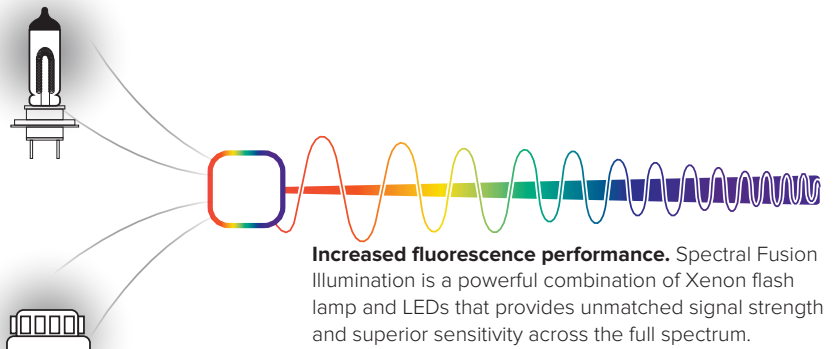
The SpectraMax i3x from Molecular Devices is a multi-mode detection system that evolves with your future needs and offers an unlimited breadth of application possibilities.

Future ready

The SpectraMax® i3x Multi Mode microplate reader measures spectral based Absorbance, Fluorescence, and Luminescence with the added functionality of modular upgrades for Western Blot, Imaging, and Fast Kinetics with Injectors.

The SpectraMax i3x reader allows you to unravel the mysteries of science by exploring cellular pathways and protein activation and expression in one system. Protect your initial investment – purchase a system with the flexibility to add novel detection capabilities without the need for service engineers or costly system downtime. The SpectraMax i3x reader grows with you as your research areas expand.

Be Future Ready with the SpectraMax i3x Multi Mode Detection Platform.



ENGINEERED TO PERFORM

Expanded dynamic range

Engineered for performance with spectral fusion illumination for increased sensitivity across the entire excitation range and a cooled photomultiplier tube (PMT) for improved detection in extremely low light. Generate more data points without the need to dilute.

User-upgradeable applications

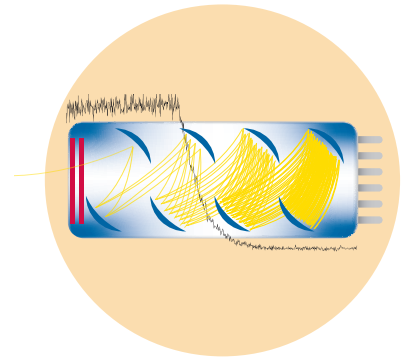
User exchangeable detection modules expand the system's detection capabilities to include Time Resolved Fluorescence, HTRF, Fast Kinetics with Injectors, and Western Blot detection.

Future proof your discoveries and let the SpectraMax i3x reader evolve with your research.

One complete solution

With available options such as the SpectraMax® MiniMax™ 300 Imaging Cytometer, ScanLater™ Western Blot cartridge, reagents optimized for high performance, and the industry leading data acquisition and analysis tool SoftMax Pro, the SpectraMax i3x Detection Platform is the total solution for all your research needs.

Let Molecular Devices® and the SpectraMax i3x Multi Mode Detection Platform power your next landmark discovery.



Quantitative low light measurement

Cooled PMT reduces background noise allowing for a more sensitive, wide dynamic range in extremely low light.



New applications in minutes

Adding modes and functionality is just minutes away. Simply insert a cartridge to expand your application capabilities.



Your total solution

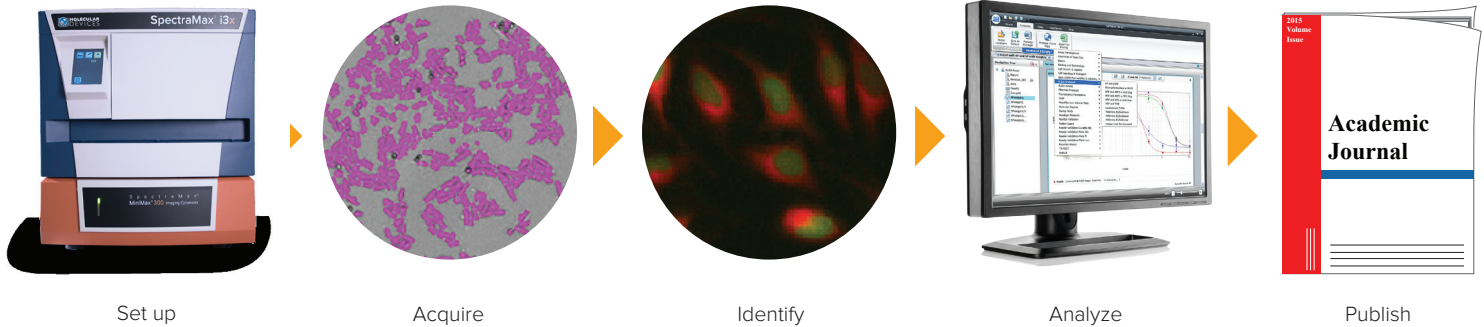
Matched reagents, an imaging cytometer option, user upgradeable detection modules, and industry leading SoftMax Pro provide you with the ability to explore every pathway.



A WEALTH OF APPLICATIONS IN ONE FUTURE-READY SYSTEM

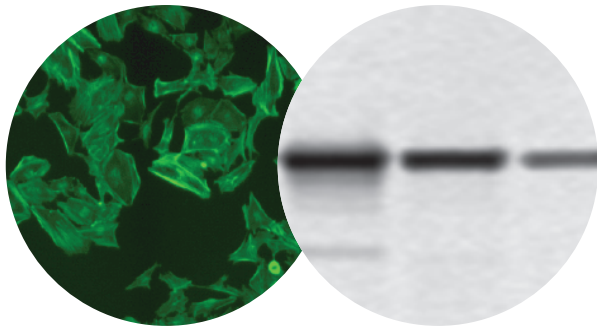
Investigate every aspect of a cellular pathway

From imaging of cell confluence and viability under different treatment conditions to quantitation of nucleic acids and protein to western blot analysis, a wealth of new knowledge is captured using a single instrument. One versatile software package powers data acquisition and analysis, from raw data to publishable results. See more and do more cellular to protein analysis using a single detection system.



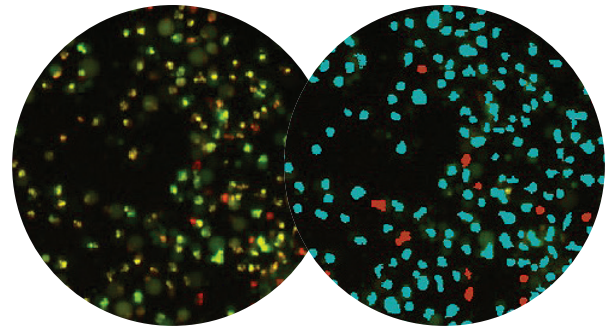
Live cell imaging

The SpectraMax MiniMax 300 Imaging Cytometer option allows for live cell images and analysis (below, left). The ScanLater Western Blot Detection Cartridge enables protein detection (bottom, right).



Visualize cells with your microplate reader








Imaging with the SpectraMax MiniMax 300 Imaging Cytometer mirrors the plate reading workflow on the SpectraMax i3x System. The plate is set up for reading and images are acquired according to specified parameters. Cells in each image are identified by SoftMax Pro Software and cell by cell statistics are collected. Data are then analyzed and visualized in different graphical representations.

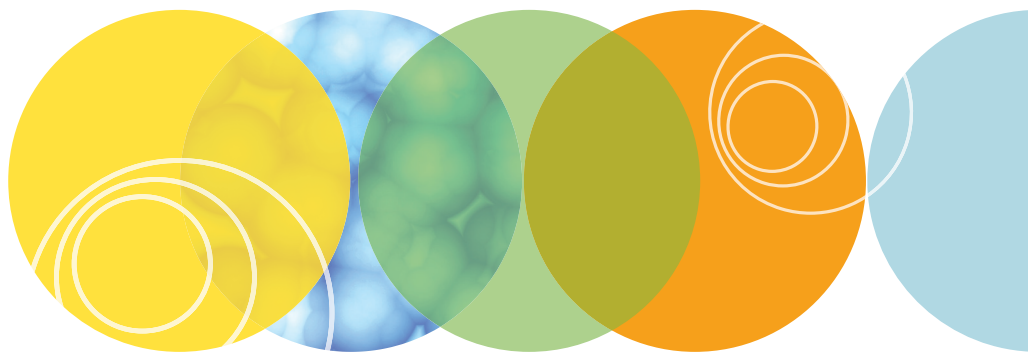


Optional enhancements

- SpectraMax MiniMax 300 Imaging Cytometer
- ScanLater Western Blot System
- SpectraDrop™ Micro Volume Microplate
- SpectraTest® Validation Packages (ABS1, FL1, LM1)
- SpectraMax i3x Injector Cartridge
- SoftMax Pro GxP Microplate Data Compliance Software
- IQ/OQ Protocols
- Additional detection modules

Additional cartridges

| Cartridge | Description | VWR Cat. No. | Specifications | Optimized sensitivity | Guaranteed sensitivity | Slots used |
|---|--|--|--|--|--|------------|
|  ScanLater | Western blot detection using ScanLater Western Blot Assay Kit TRF based with 340/80 nm EX and 616/10 nm EM | 10192 222 | EX range: 340/80 nm EM range: 616/10 nm | High fg levels of Streptavidin | High fg levels of Streptavidin | 2 |
|  AlphaScreen | AlphaScreen and AlphaLisa detection using 1 W 680 nm EX laser diode and a 570 nm (100) EM filter | 10014 890 | Alpha 384 STD 96 and 384 well plates | | < 100 amol (384 well) | 1 |
| | Pick best speed, sensitivity, and price for your needs | 10014 892 | Alpha 384 HTS 96 and 384 well plates | | < 100 amol (384 well) | 1 |
| | Guaranteed sensitivity: < 100 amol phosphorylates biotin peptide in 25 μ L assay volume in a 384 well plate | 10014 894 | Alpha 1536 HTS 96, 384, and 1536 well plates | | < 100 amol (384 well) | 1 |
|  HTRF | Cisbio HTRF detection with optimized Xenon light source and 616, 665 nm EM filters Measures both emissions simultaneously | 10014 896 | 6 to 1536 well plates | Exceeds Cisbio certification requirements | | 2 |
|  TRF | LED light source and Europium EX and EM filters (370 616 nm) Suitable for assays using Europium chelate and similar labels Includes 642 nm EM filter for TR FRET assays with Samarium labels | 10014 898 | 6 to 1536 well plates | 96 0.03 pM 384 0.03 pM 1536 0.125 pM | 96 well: 0.1 pM 384 well: 0.1 pM 1536 well: 0.375 pM | 1 |
|  FP | Fluorescence Polarization detection for fluorescein or rhodamine like labels Using specific LED and EX/EM filters for 6 to 1536 well plates | 10014 900 10014 902 | Fluorescein FP EX 485 nm, EM 535P and 535S nm Rhodamine FP EX 535 nm, EM 595P and 595S nm | 96 1.0 mP 384 1.5 mP 1536 2.0 mP | 96 well: 3 mP 384 well: 4 mP 1536 well: 6 mP | 1 |
|  Injectors | Dual Auto Injectors to expand your research capabilities to include flash reactions | 10018 646 | Ask your local sales representative for more information | | | |
|  Custom Solutions | Custom cartridges are available and designed to meet your specific research needs | Ask your local sales representative for more information | | | | |



Technical specifications (base system)

| General specifications | |
|------------------------|-----------------------------------|
| Dimensions (in.) | 12.63 (H) x 15.38 (W) x 23.38 (D) |
| Dimensions (cm) | 42.23 (H) x 39.05 (W) x 59.37 (D) |
| Weight | 68.3 lbs. (31.0 kg) |
| Power consumption | < 200 watts |
| Power source | 100 240 Vac, 2 A, 50/60 Hz |
| Robotic compatible | Yes |

| General photometric performance | |
|---------------------------------|--|
| Plate formats | 6 to 1536 wells [§] |
| Light source | Spectral Fusion Illumination (Xenon flash lamp + high powered LEDs or laser diode in detection cartridges) |
| Reading capabilities | Microplates, cuvettes (via adapter) |
| Detectors | PMT and/or photodiode |
| Shaking | Linear and orbital |
| Dual Auto Injectors | Available October 1, 2015 |
| Temp. control | 4°C above ambient to 45°C |
| Temp. uniformity | ± 0.75°C |
| Temp. accuracy | ±1°C at 37°C set point |
| Environmental control | Gas quick connect |
| Spectral scanning | Abs, FI, Lum |
| Endpoint reading | All modes |
| Kinetic reading | All modes |
| Well scanning | Over 20 by 20 in all modes |
| Wavelength selection | 1.0 nm increments |

| Standard read times (minutes:seconds)* | | |
|--|----------|-----------|
| | 96 wells | 384 wells |
| Absorbance | 0:30 | 1:40 |
| Fluorescence intensity | 0:25 | 1:25 |
| Luminescence | 0:30 | 1:15 |

| Absorbance photometric performance | |
|------------------------------------|---------------------------|
| Wavelength range | 230 1000 nm |
| Wavelength bandwidth | 4.0 nm |
| Wavelength accuracy | ± 2.0 nm |
| Wavelength repeatability | ± 1.0 nm |
| Photometric range | 0 4.0 OD |
| Photometric resolution | 0.001 OD |
| Photometric accuracy | < ±0.010 OD ±1.0%, 0 2 OD |
| Photometric precision | < ±0.003 OD ±1.0%, 0 2 OD |
| Stray light | < 0.05% @ 230 nm |

| Fluorescence intensity performance | |
|---|----------------------------------|
| Wavelength range | 250 850 nm |
| Wavelength selection | 1.0 nm increments |
| Bandwidth (EX/EM) | Adjustable EX 9/15 nm EM15/25 nm |
| Dynamic range | > 6 logs |
| Top sensitivity (fluorescein) | Optimized |
| 96 wells | 0.5 pM |
| 384 wells | 1 pM |
| Bottom sensitivity (fluorescein) | Optimized |
| 96 wells | 5 pM |
| 384 wells | 5 pM |

| Luminescence performance | |
|-------------------------------|---|
| Wavelength range | 300 850 nm |
| Wavelength selection | Choice of simultaneous detection of all wavelengths or selection in 1.0 nm increments |
| Dynamic range | > 6 decades |
| Cross talk | < 0.4% in white 96 and 384 well microplates |
| Sensitivity (ATP Glow) | Optimized |
| 96 wells | 3 pM |
| 384 wells | 6 pM |

* With 6 flashes in absorbance and 3 flashes in fluorescence mode and 0.1 sec./well integration in 96 well luminescence mode and 0.04 sec./well integration in 384 well luminescence mode
[§] 1536 detection available via detection cartridges






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