

# Synergy™ Mx Multi-Mode Microplate Reader



## QuickFacts:

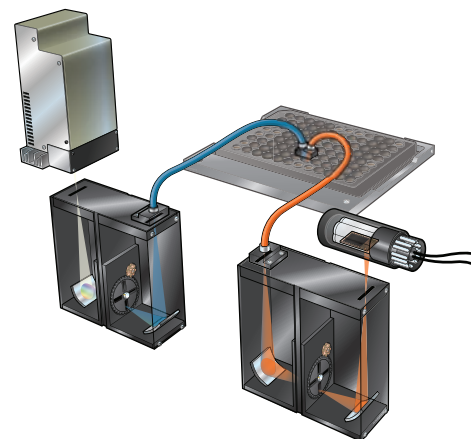
- Fully monochromator-based
- Compatible with Take3™ Multi-Volume Plate with 2 µL microspots for low-volume assays
- High performance fluorescence (top and bottom), absorbance and dedicated luminescence detection system
- Variable bandpass selection system adds flexibility
- Cuvette port to measure standard 1-cm path cuvettes
- Optional dual reagent injector automates inject and read assays

Ultra Fine-Tuned™ Technology is what sets the Synergy™ Mx Multi-Mode Reader apart. Its quadruple monochromator system selects wavelengths with a repeatability of ± 0.2 nm. Its top optical head can focus up and down on the samples with a 100 µm resolution.

Four slits on the excitation and emission side provide a choice of 16 bandpass combinations for every wavelength pair. Its advanced 4-Zone™ temperature control system incubates up to 65°C with a precision of ± 0.5°C at 37°C. These unique features and BioTek's exclusive focus

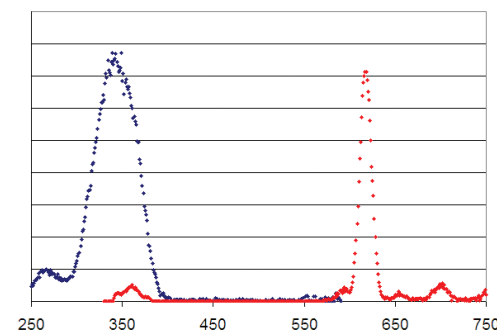
on microplate instrumentation and software make the Synergy Mx the most precise, sensitive and flexible multi-mode microplate reader available today for life science research applications.

## Flexible Quadruple-Grating Monochromator System



A quadruple grating architecture increases sensitivity, reduces stray-light and provides smooth spectral scanning functionality.

## Fluorescence Spectral Scanning



Excitation and emission spectra measured on Synergy Mx. Any wavelength can be selected from 250 nm to 900 nm in 1 nm increments.

# Synergy™ HT Multi-Mode Microplate Reader



## QuickFacts:

- Compatible with Take3™ Multi-Volume Plate with 2 µL microspots for low-volume nucleic acid quantification
- Filter-based top and bottom fluorescence system provides high performance for a wide range of applications
- Monochromator-based absorbance system: work from 200 to 999 nm without filters
- Low-noise photomultiplier tube for high performance in luminescence mode
- Optional dual reagent injector automates inject and read assays

Used in thousands of laboratories worldwide, this entry-level multi-mode reader is ideal for life science research applications. It includes a sensitive filter-based top/bottom fluorescence system and a flexible monochromator-based absorbance detection system. Combined with

Gen5™ Data Analysis Software, Synergy™ HT is commonly used for a variety of applications. Its fluorescence system can be used for sensitive DNA quantification assays, or cell-based FRET assays. Its monochromator-based absorbance optics enable nucleic acid quantification at 260 nm,

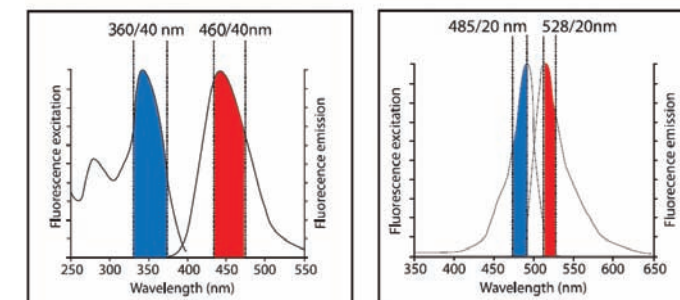
ELISA assays, or cell-growth assays at 620 nm. Its low-noise luminescence optics are used in luciferase gene expression assays, as well as cell proliferation or cytotoxicity assays based on ATP detection.

## Take3 Multi-Volume Plate



Combined with the Take3 Multi-Volume Plate, the Synergy HT can measure samples down to 2 µL.

## Filter-Based Fluorescence



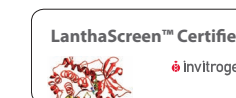
In Fluorescence mode, filters with dye specific bandwidths provide high sensitivity for all applications. No matter what fluorescent label is used, the optical system can be configured to exactly match its spectral characteristics.

Choose from four Synergy models – from a basic multi-mode reader to a high-performance Hybrid multi-mode reader. Each model has a range of detection modes, features and options so that you can select the one that's perfect for your applications.

Can't decide? We're happy to recommend the best solution for your needs, or to arrange for a product demonstration. Visit [www.biotek.com](http://www.biotek.com) for more information.

## Partners

Through reagent vendor partnerships, you are assured that our readers perform optimally with a wide range of assays. Application notes available on [www.biotek.com](http://www.biotek.com) present data obtained in partnership with these companies and the conditions required to perform these assays on BioTek's equipment.



## Which Synergy is right for you?

	Synergy HT Value	Synergy Mx Flexibility	Synergy 2 Performance	Synergy H4 Hybrid
<b>Key Facts</b>				
Monochromator-based UV-Visible Absorbance	•	•	•	•
Fluorescence Top/Bottom	•	•	•	•
Luminescence	•	•	•	•
Reagent Injectors	•	•	•	•
Filter-based Fluorescence	•		•	•
Monochromator-based Fluorescence		•		•
TRF & TR-FRET			•	•
Fluorescence Polarization			•	•
AlphaScreen			•	•
Hybrid Technology				•
<b>Performance Specifications</b>				
Fluorescein Typical – Top	5 pM	2.5 pM	1 pM	1 pM / 2.5 pM
Fluorescein Typical – Bottom	5 pM	5 pM	5 pM	5 pM
ATP Typical – Flash Luminescence	30 amol	10 amol	10 amol	10 amol
Polarization Typical – 1 nM Fluorescein			3 mP std. deviation	3 mP std. deviation
Europium Typical			60 fM	60 fM
Fastest Read Speed 96-/384-Well Plates	14 s / 26 s	11 s / 22 s	11 s / 22 s	11 s / 22 s
<b>General Specifications</b>				
Microplate Type	6- to 384-well	6- to 384-well	6- to 1536-well	6- to 1536-well
Compatible with Take3 Plate - 2 µL samples	•	•	•	•
Temperature Control System	to 50°C	to 65°C	to 65°C	to 65°C
Microplate Shaking	•	•	•	•
Automation Friendly	•	•	•	•
Pathlength Correction	•	•	•	•
OD Dynamic Range	0 - 4.0	0 - 4.0	0 - 4.0	0 - 4.0
OD Resolution	0.001	0.0001	0.0001	0.0001
OD Bandpass (nm)	2.4	2 (<285 nm), 4 (>285 nm)	2.4	2 (<285 nm), 4 (>285 nm)
Fluorescence Wavelength Range	200-700 nm (900 nm option)	250-900 nm	200-700 nm (900 nm option)	250-900 nm
Fluorescence Bandpass (nm)	Filter-dependent	Variable: 9, 13.5, 17, 20	Filter-dependent	Variable: 9, 13.5, 17, 20 Filter-dependent
Injection Volume Range	5 - 1000 µL	5 - 1000 µL	5 - 1000 µL	5 - 1000 µL
Gen5 Software Included	•	•	•	•

\* Specifications subject to change