

# Synergy™ 2 Multi-Mode Microplate Reader

Synergy™ 2 is a multi-mode microplate reader with performance, speed and sensitivity. Synergy 2 challenges the more expensive instruments, and is truly "best-in-class", offering enhanced sensitivity in fluorescence intensity, time-resolved fluorescence, luminescence and UV-Vis absorbance and the addition of fluorescence polarization.

Synergy 2 optimizes performance in all detection modes by using dedicated optical elements for each individual technique. This approach offers uncompromised performance and the lowest limits of detection. Modular architecture provides for scalable instrument options that result in acquisition cost savings and allow for future upgrades. This combination of superior performance, flexibility and cost-effectiveness makes Synergy 2 the best value in multi-detection microplate readers.

## Low-Volume Assays



Compatible with Take3™ plate with 2  $\mu$ L microspots which enable low-volume nucleic acid quantification.

## Wide Range of Applications



Dual reagent injector for ion channel assays, flash luminescence and fast enzyme kinetics.

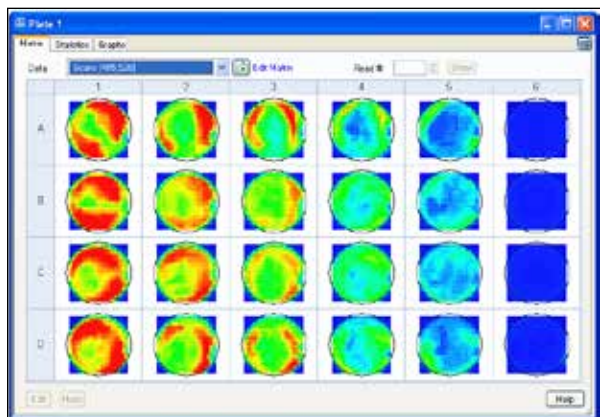


## Features:

- Detection Modes: Fluorescence intensity, time-resolved fluorescence, fluorescence polarization, AlphaScreen®, glow and flash luminescence, UV-Vis absorbance, FRET, TR-FRET, BRET, area scanning, spectral scanning
- Unique Optical System: A narrow band monochromator, optimized filter/dichroic mirror pairing, and three broad spectrum light sources achieve superior performance in all read modes
- High Sensitivity: Dedicated optical elements optimized for each specific modality result in the lowest limits of detection available in one compact instrument
- Modular Design: Purchase only what you need and upgrade later as experimental requirements expand
- Compatible with Take3 plate with 2  $\mu$ L microspots for low-volume assays
- Wide Range of Applications: With built-in temperature control, shaking, and optional dual reagent injector, virtually any microplate-based application is possible
- Gen5™ Software: Integrates reader control, data analysis, graphing and exporting tools in one powerful platform



## Gen5™ Data Analysis Software



The Synergy™ 2 features a software platform with a modern and intuitive user interface.

## Configurations:

Synergy 2: Detection systems and injectors available as individual modules

See Web site or price list for configurations and descriptions.

## Optional Accessories:

- Take3™ Micro-Volume Plate
- Absorbance Test Plate
- Fluorescence Test Plate
- Luminescence Test Plate
- Patented BioCell™ 1 cm quartz vessel
- Product Qualification Package
- Gen5™ Secure (for 21 CFR Part 11 Compliance)

## Typical Applications:

- Nucleic acid quantification
- Protein quantification
- Enzyme kinetics
- Biomarker quantification
- ELISAs
- Genetic analysis
- Drug discovery
- Cell proliferation
- Cytotoxicity
- Drug absorption and metabolism
- Biologics drug discovery and development
- Food safety
- Biofuels research
- Environmental monitoring

AlphaScreen®/AlphaLISA® are registered trademarks of PerkinElmer.



**BioTek Instruments, Inc.**  
Highland Park, P.O. Box 998  
Winooski, Vermont 05404-0998, USA

Phone: 802-655-4040 • Toll-Free: 888-451-5171  
Outside the USA: 802-655-4740  
[www.biotek.com](http://www.biotek.com)

## Specifications:

### General

Detection mode:	FL, TRF, FP, Lum., UV-Vis Abs., AlphaScreen®/AlphaLISA®
Read method:	End point, kinetic, spectral scanning, well area scanning
Microplate types:	6 to 1536 wells (luminescence 1 to 384 wells) PCR plates Compatible with Take3™ Micro-Volume Plate
Temperature control:	4-Zone™ incubation from 4 °C above ambient to 65 °C; ±0.2 °C at 37 °C
Shaking:	Yes
Software:	Gen5™ Data Analysis Software
Automation:	Compatible with BioStack™ and 3rd party automation

### AlphaScreen®/AlphaLISA®

Light source:	Tungsten halogen lamp
Sensitivity:	100 amol of biotinylated-LCK-P peptide, 25 µL/well in 384-well plate
Dynamic range:	>6 decades
Detection system:	Ultra low noise PMT

### Absorbance

Light source:	SQ xenon flash lamp
Wavelength selection:	Monochromator
Wavelength range:	200 – 999 nm, 1 nm increments
Bandpass:	2.4 nm
Dynamic range:	0 – 4.0 OD
Resolution:	0.0001 OD
Pathlength correction:	Yes
OD accuracy:	<1 % at 2.0 OD <3% at 3.0 OD
OD repeatability:	<0.5% at 2.0 OD
Reading speed:	96 wells: 11 seconds 384 wells: 22 seconds 1536 wells: 42 seconds

### Fluorescence Intensity

Sensitivity (SF):	Top: 1 pM (0.2 fmol/well 96-well plate; 0.1 fmol/well 384-well plate) Bottom: 5 pM (1 fmol/well 96-well plate; 0.5 fmol/well 384-well plate)
Light source:	Tungsten halogen High energy DPR xenon flash (optional)
Wavelength selection:	Deep blocking bandpass filters/dichroic mirrors
Wavelength range:	300 – 700 nm with tungsten lamp (850 nm option) 200 – 700 nm with xenon lamp (850 nm option)
Dynamic range:	>6 decades
Bandpass:	Filter dependent
Detection system:	PMT

### Luminescence

Sensitivity:	10 amol ATP (flash)
Wavelength range:	300 – 700 nm
Dynamic range:	>6 decades
detection system:	Low noise PMT

### Fluorescence Polarization

Light source:	Tungsten halogen High energy DPR xenon flash (optional)
Sensitivity:	3 mP at 1 nM fluorescein
Wavelength selection:	Deep blocking filters/dichroic mirrors
Wavelength range:	400 – 700 nm (320 – 850 nm option)

### Time-Resolved Fluorescence

Light source:	High energy DPR xenon flash
Sensitivity:	Europium 60 fM (12 amol/well 96-well plate; 6 amol/well 384-well plate)
Wavelength selection:	Deep blocking filters/dichroic mirrors
Wavelength range:	200 – 700 nm (850 nm option)

### Reagent Dispensers

Number:	2 syringe pumps
Dispense volume:	5 – 1000 µL in 1 µL increments
Minimum prime volume:	1.1 mL, 100 µL with back flush

### Physical Characteristics

Power:	100 – 240 Volts AC. 50/60 Hz
Dimensions:	17" W x 17.5" D x 14.5" H (43.5 x 44.5 x 37.3 cm)
Weight:	60 lbs (27 kg)

### Regulatory

For In Vitro Diagnostic use. CE and TUV marked, RoHS compliant.

Performance values represent the average observed factory test values.  
\*Specifications subject to change.