

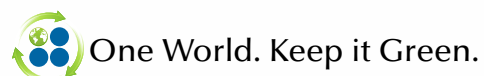


An extra step goes a long way.

At BioTek, our goal is to help our customers to Get a Better Reaction because we take an extra step in everything that we do.

Each BioTek solution includes superior value, performance, functionality and quality coupled with world-class personal attention and outstanding service and support. This means that our entire team – from customer care and technical service, to our knowledgeable sales force and scientific experts – all strive to ensure that our customers' processes will be rapid, efficient and successful.

BioTek Instruments, Inc., headquartered in Winooski, Vermont, USA, is globally recognized for providing microplate technology customers with the best experience possible. By combining an exclusive focus on microplate instrumentation and software with a deep understanding of drug discovery and life science markets, we create customer-driven microplate solutions.



One World. Keep it Green.

To learn more about what BioTek is doing to help keep our planet green visit www.biotek.com/greenplanet



China • France • Germany • India • Singapore • United Kingdom • United States



Synergy™

Multi-Mode Microplate Readers

Taking versatility to new heights.



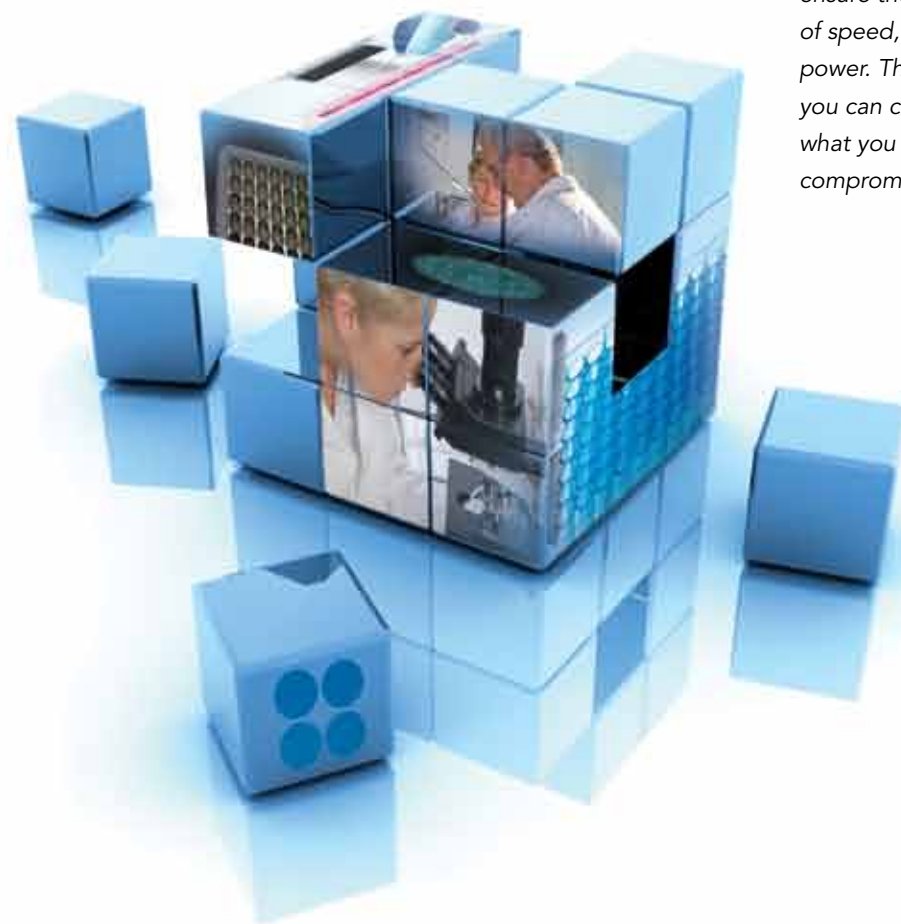


Synergy™
Built for You

Is it possible to build a microplate reader just for you? One that shortens your research process and increases productivity? And includes a team of experts working with you to reach a cogent solution for your applications? At a reasonable price?

Yes, it's possible, and it's from BioTek.

We understand what you do, and what you need to get the job done. That's why at BioTek, we don't just build multi-mode microplate readers – we provide a solution in direct response to your needs. From our engineering prowess to our expert support and service, we strive to ensure that your process will be rapid, efficient and successful.



Our full line of Synergy Multi-Mode Microplate Readers covers all the bases in life science and drug discovery applications. Each incorporates cutting-edge technology developed to produce precise results from the latest assay technologies.

Additionally, each Synergy Multi-Mode Microplate Reader is driven by intelligent Gen5™ Data Analysis Software to ensure the highest degree of speed, accuracy and power. This means that you can choose exactly what you need without any compromises.



Synergy Solutions

An entry level multi-mode reader used in thousands of laboratories worldwide for life science research applications

Detection modes: Monochromator-based Absorbance; Filter-based Fluorescence; Luminescence

Applications: Life Science Research



**HT
Value**

Fully monochromator-based multi-mode reader is extremely easy to use and provides a higher level of flexibility than filter-based systems

Detection modes: Monochromator-based Absorbance; Monochromator-based Fluorescence; Luminescence

Applications: Life Science Research



**Mx
Flexibility**

BioTek's high-performance filter-based multi-mode reader

Detection modes: Monochromator-based Absorbance; Filter-based Fluorescence; Luminescence; Fluorescence Polarization; Time Resolved Fluorescence

Applications: Life Science Research; Drug Discovery



**2
Performance**

Hybrid Technology™ (patent pending) combines high-performance filter-based optics and flexible monochromator-based optics – the most versatile multi-mode reader in its class

Detection modes: Monochromator-based Absorbance; Hybrid Filter and Monochromator-based Fluorescence; Luminescence; Fluorescence Polarization; Time Resolved Fluorescence

Applications: Life Science Research; Drug Discovery



**SYNERGY
4
Hybrid**



Life Science Research

Synergy HT & Synergy Mx. The Perfect Fit for Life Science Research.

A multitude of Life Science Research applications require microplate readers that are easy to use and adaptable to changing assay requirements. BioTek's Synergy HT and Synergy Mx Multi-Mode Microplate Readers provide a high degree of efficiency, flexibility and simplicity – all at an affordable price.

Here's a look at some of the common Life Science Research applications that benefit from Synergy HT and Synergy Mx.

Nucleic Acid and Protein Quantification

Nucleic acids are routinely quantified by absorbance at 260 nm, and fluorescence detection is used when higher sensitivity is required. For proteins, simple colorimetric assays (Lowry, Bradford) are commonly used.

Enzymology

Depending on sensitivity requirements, absorbance, fluorescence or luminescence detection can be used to monitor, quantify and characterize enzyme activity.

Biomarker Quantification and ELISA Assays

ELISA assays are one of the most common applications of microplate readers. Many assays are also available for the high-throughput quantification of common biomarkers such as Insulin, Cholesterol or TNF- α .



Cell Biology and Microbial Quantification

Gene expression assays can be run in a variety of formats (fluorescent GFP assays, β -galactosidase or luciferase activity). Cell populations in suspension can be monitored by light scattering. Other assays allow for detection of microbial contaminations in cell cultures.

Need more data? Visit www.biotek.com for detailed specifications, these application notes, and more.

- *Nucleic Acid Purity Assessment Using A260/A280 Ratios*
- *An Introduction to Fluorescence Resonance Energy Transfer (FRET) Technology and its Application in Bioscience*
- *Monitoring the Growth of E. coli With Light Scattering Using a Synergy™ Multi-Mode Microplate Reader*

"The Synergy HT exceeded our expectations in ease-of-use and flexibility. We now have 3 machines in constant use."

*– Jennifer Edwards
Principal Investigator–
The Research Institute
at Nationwide
Children's Hospital*

Drug Discovery



Synergy 2 & Synergy 4. Built for Drug Discovery Applications.



Drug Discovery demands a high degree of performance and sensitivity from microplate readers – even in high-density microplates. BioTek's Synergy 2 and Synergy 4 Multi-Mode Microplate Readers provide uncompromised performance and the lowest limits of detection over a wide range of applications.

Here's a look at some of the common Drug Discovery applications that benefit from Synergy 2 and Synergy 4.

Kinase Assays

Deregulated kinase activity is a frequent cause of disease, particularly cancer. As a result, assays have been developed to screen for kinases inhibitors.

G-Protein Coupled Receptor (GPCR) Assays

GPCRs are the target of around half of all modern medicinal drugs. Many biochemical and cell-based GPCR assays have been developed to identify new drug candidates.

Ion Channel Assays

Ion channels are important drug targets because of their critical role in nerve, cardiac, endocrine, and skeletal muscle tissues. Ion channel assays typically require the use of automated reagent injectors.

Enzyme Assays

Drugs such as HIV protease inhibitors are already available. Their success has led to proteases and other enzymes being increasingly viewed as valuable drug targets.

Need more data? Visit www.biotek.com for detailed specifications, these application notes, and more.

- *Ion Channel Assay Development on a Synergy Multi Detection Microplate Reader from BioTek*
- *GeneBLAzer® FRET Cell-based Assay from Invitrogen™ on Synergy™ 4*
- *AlphaScreen™ Quantitation of cAMP using the Synergy™ 2 Multi-Mode Microplate Reader*

"We found that each of these [competitive] instruments could excel in one area or another but none could match the overall package of the Synergy 2."

*– Scott Wise
Director of Biology,
Deciphera*

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.

Synergy™
Built for You

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 for more information.

Which Synergy is right for you?

	Synergy HT Value	Synergy Mx Flexibility	Synergy 2 Performance	Synergy 4 Hybrid
Key Facts				
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				•
Performance Specifications				
Fluorescein Typical – Top	5 pM	2.5 pM	1 pM	1 pM / 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
General Specifications				
Microplate Type	6- to 384-well	6- to 384-well	6- to 1536-well	6- to 1536-well
Temperature Control System	to 50°C	to 65°C	to 50°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	2.4
Fluorescence Wavelength Range	200-700 nm (900 nm option)	230-900 nm	200-700 nm (900 nm option)	200-800 nm (900 nm option)
Fluorescence Bandpass (nm)	Filter-dependent	Variable: 9, 13.5, 17, 20	Filter-dependent	12 (monochromator) Filter-dependent
Injection Volume Range	5 - 1000 µL	5 - 1000 µL	5 - 1000 µL	5 - 1000 µL
Gen5 Software Included	•	•	•	•

