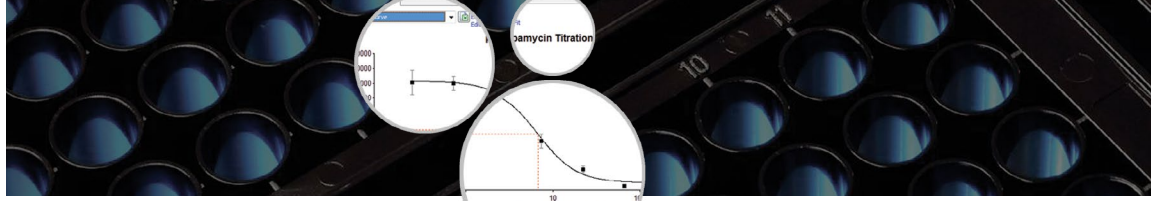


MULTI-MODE | readers

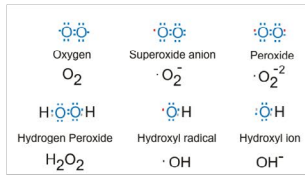
BioTek Multi-Mode Detection.
A Solution for Everyone.



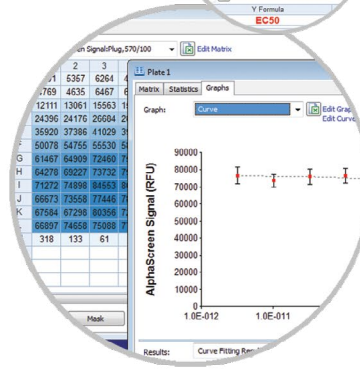
Applications



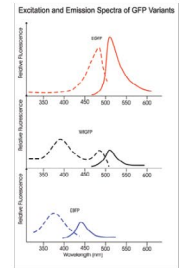
ELISA



ROS



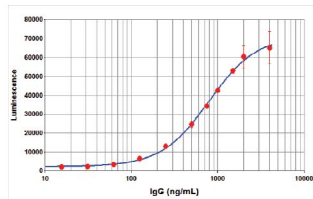
GFP



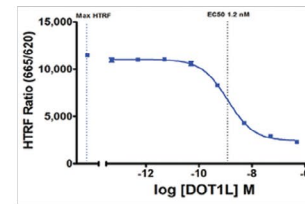
Luminescence

Fluorescence Polarization Assay

A_{260}/A_{280}



EC50



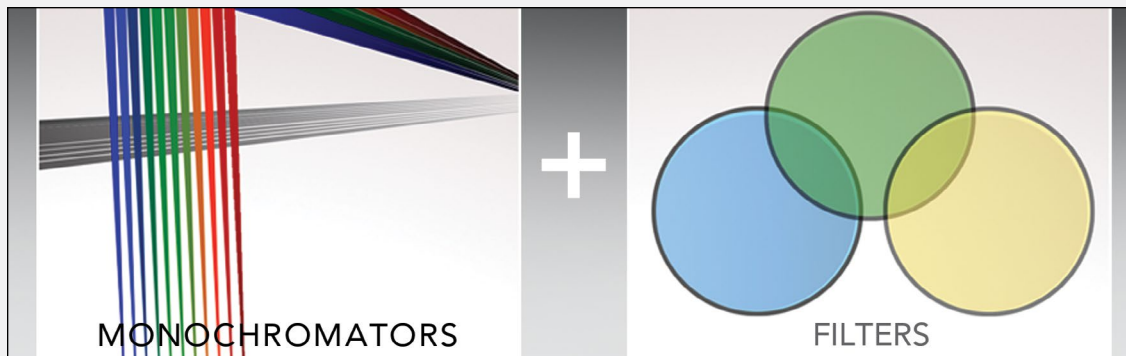
Life science laboratories around the globe have their own unique requirements for instrumentation. BioTek's high quality instruments offer the best sensitivity, fastest speeds, low maintenance costs and simple, yet amazingly powerful software. Our broad range of configurable, upgradable multi-mode microplate readers are able to meet the diverse detection needs of a very wide range of applications. To support these applications, BioTek has a huge (>4,000 articles!) searchable library of technical resources that can be viewed on our website, including Application Notes, Bulletins and Guides, Visual Abstracts, White Papers, Presentations and Journal Citations. In addition, our expert scientific staff, Field Applications Scientists, and highly skilled Technical Assistance Center engineers are available to help facilitate your important time sensitive research.

BioTek Hybrid Multi-Mode and Multi-Mode Readers are used in many applications:

- High throughput screening
- Drug absorption and metabolism
- Drug discovery and development
- Small molecule inhibitors
- Cell proliferation
- Cytotoxicity
- Drug targeting
- Biomarker quantification
- Genetic analysis
- Environmental testing
- Food safety
- Nucleic acid quantification
- Rapid kinetics
- FRET
- TR-FRET
- HTRF
- Cytokines
- Fluorescence polarization
- AlphaPlex
- AlphaScreen
- SNP

Key Technologies

Hybrid Technology

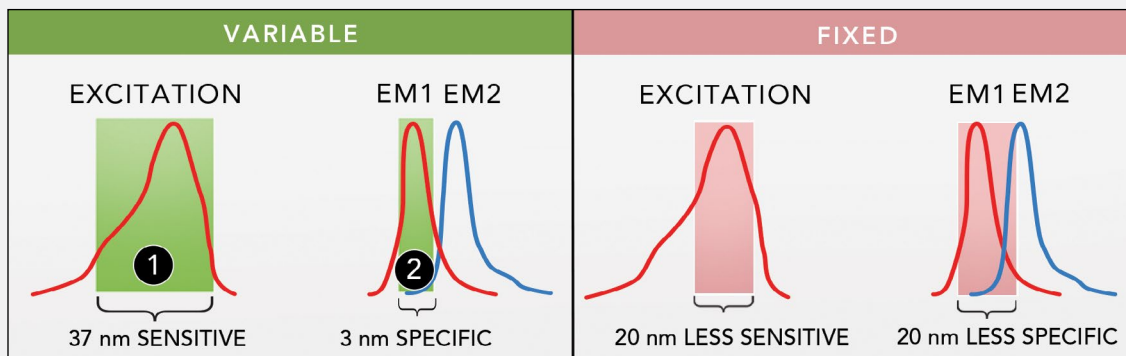


Several BioTek multi-mode readers feature the patented Hybrid Technology, which combines monochromator and filter optics for advanced performance and flexibility for any assay.

Monochromator: variable bandwidth, absorbance, fluorescence, luminescence

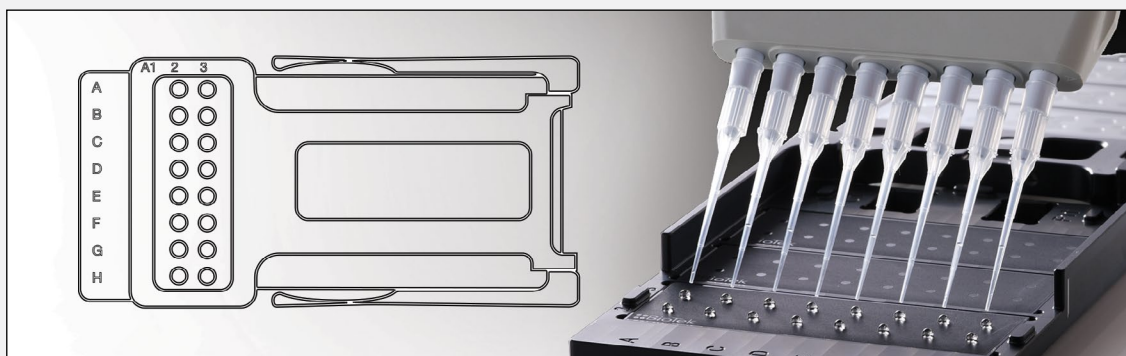
Filters: fluorescence polarization, time-resolved fluorescence, Alpha laser

Variable bandwidth for sensitivity and specificity



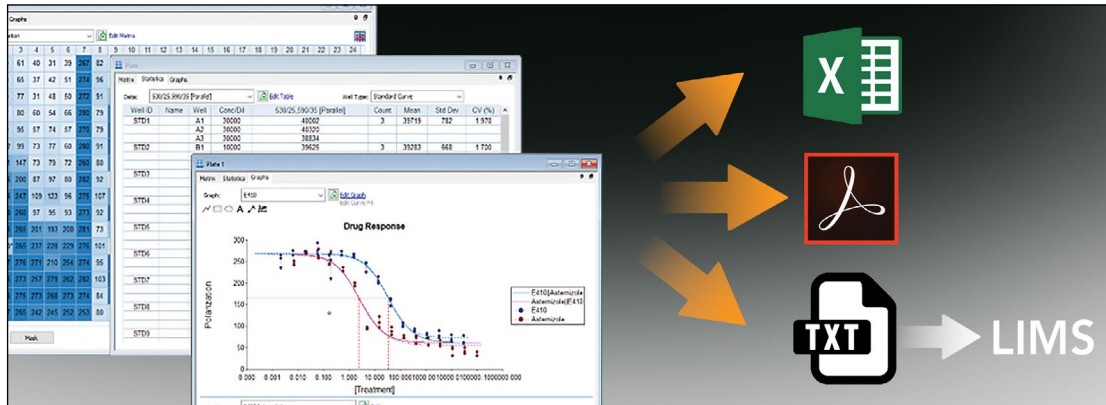
BioTek's Synergy™ Neo2, Synergy H1 and Cytation C10/7/5 have variable bandwidth monochromators. Large bandwidth settings **(1)** provide increased sensitivity and lower limits of detection. Small bandwidth settings **(2)** provide increased specificity when multiple signals are present, which reduces signal crosstalk and enhances assay performance.

Micro-volume analysis with Take3 Plate



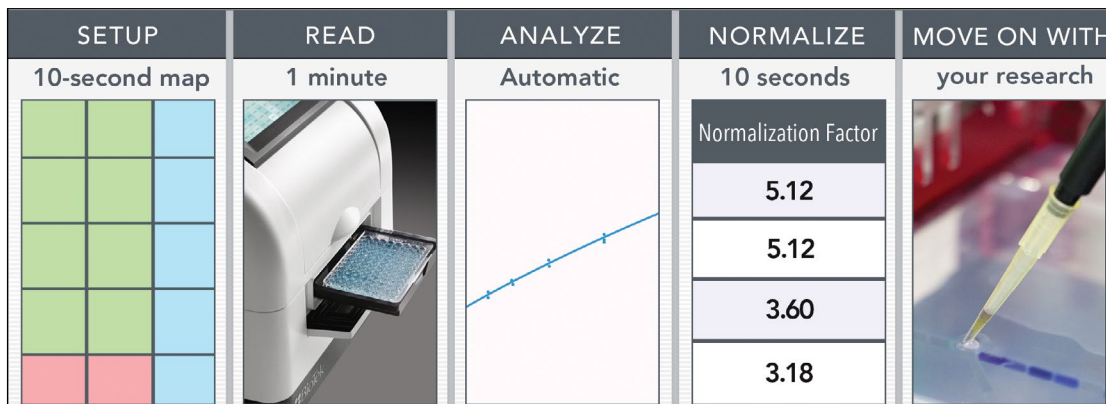
Your BioTek Cytation or Synergy reader becomes a micro-volume analysis system with the Take3™ plate. Measure 16 or 48 samples in one run, saving a lot of time compared to single-sample devices. Gen5™ is pre-programmed for ssDNA, dsDNA, RNA and protein quantification in 2 µL samples.

Powerful Gen5™ Software



BioTek's multi-mode readers are controlled by Gen5 Software, which also enables powerful data analyses, including multiple curve fits, EC/IC₅₀, and Z' calculations. Customizable data export and reports are available in a variety of file formats.

Plate Reading to Results in Minutes



The Quantitative Assay Apps use the power of Gen5 behind a simple, step-by-step customization of pre-defined protocols for a streamlined process. Bradford, Lowry, BCA or Fluorescence DNA assays are run with only a few clicks.

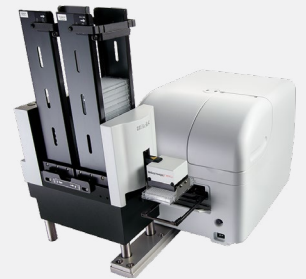
Hybrid Multi-Mode Readers

SYNERGY|neo2 multi-mode reader



Synergy™ Neo2 Multi-Mode Microplate Reader is designed for the screening laboratory, with speed and ultra-high performance. Variable bandwidth quad monochromators, sensitive high transmission filter-based optics, two lasers and multiple detectors provide remarkably fast measurements with excellent results.

- ▷ Patented Hybrid Technology™: independent filter and monochromator optics
- ▷ Ultra-fast plate processing speeds with multiple detectors for simultaneous dual emission detection
- ▷ TRF and Alpha lasers for better signal/noise, z' and fast reading speeds
- ▷ Variable bandwidth monochromators for optimal sensitivity and flexibility
- ▷ Live cell assay environment: incubation to 70 °C and CO₂/O₂ control
- ▷ Fast plate stacker for increased throughput
- ▷ Gen5 Software provides control, powerful analysis and easy LIMs and automation integration.



CYTATION | IMAGING READERS



Cytation™ Multi-Mode readers are modular, to meet your laboratory's present workflows, and upgrade to meet future requirements. An available brightfield and fluorescence microscopy module expands the range of applications in a single instrument.

- ▷ Modular and upgradable to imaging to meet current and future workflow requirements
- ▷ Patented Hybrid Technology™: sensitivity of filters and sensitivity of monochromators
- ▷ Variable bandwidth monochromators to optimize fluorophore detection
- ▷ 100 mW laser for speed and performance-based excitation for Alpha assays
- ▷ Micro-volume nucleic acid and protein quantification with the Take3 Micro-Volume Plate
- ▷ Peltier Cooling Module maintains environmental stability for uncompromised assay integrity



SYNERGY|H1 microplate reader



Synergy™ H1 is a configurable multi-mode microplate reader. Choose monochromator-based optics for flexibility, filter-based optics for sensitivity, or both...BioTek's patented Hybrid Technology™ offers high-performance and applications versatility in a modular platform to expand as your laboratory's needs change.

- ▷ Cost-effective hybrid offering excellent sensitivity, flexibility and value
- ▷ Variable bandwidth monochromators to optimize fluorophore detection
- ▷ Modular and upgradable: choose the modes you need now, add as needs change
- ▷ Patented Hybrid Technology: sensitivity of filters and flexibility of monochromators
- ▷ Micro-volume nucleic acid and protein quantification with the Take3 Micro-Volume Plate
- ▷ Live cell assay friendly with temperature control to 70 °C and CO₂/O₂ control



Multi-Mode Readers



Multi-Mode microplate readers offer flexibility and ease of use over a broad range of applications. Configurability is an important aspect of BioTek's multi-mode readers to provide the most value for laboratory budgets, but the independent optical systems in our multi-mode readers don't compromise on performance. Synergy HTX and Synergy LX offer features and outstanding specifications for performance and economy, including:

SYNERGY|HTX

multi-mode reader



Synergy™ HTX Multi-Mode Microplate Reader is a compact, affordable system for 6- to 384-well microplates and Take3 Micro-Volume Plates. Its unique dual optics design provides superior performance for UV-Vis absorbance, fluorescence, luminescence and AlphaScreen®/AlphaLISA® workflows.

- ▷ Great flexibility at a low price
- ▷ Monochromator - based UV/Vis absorbance and filter-based fluorescence
- ▷ Linear and orbital shaking support and optimize many applications
- ▷ Excellent performance with AlphaScreen® and AlphaLISA®
- ▷ Dual reagent injectors, ideal for inject/read assays
- ▷ Micro-volume nucleic acid and protein quantification with the Take3 Micro-Volume Plate

SYNERGY|LX

multi-mode reader



Synergy™ LX Multi-Mode Microplate Reader economically automates many common microplate assays. Its large touchscreen user interface and onboard software simplify programming and operation, and the high quality optics ensure excellent data in absorbance, fluorescence and luminescence detection modes. Applications include nucleic acid and protein quantification, ELISA, BCA, Bradford and cell viability.

- ▷ Affordable multi-mode reader
- ▷ Micro-volume quantification with Take3 plates
- ▷ Continuous UV-Vis wavelength selection: 200 nm to 999 nm
- ▷ High performance, high blocking filters for fluorescence and luminescence
- ▷ Touchscreen: Easy operation, immediate data display
- ▷ Output to USB flash drive, printer or Gen5 Software





BioTek offers a wide range of peripherals and accessories to help increase productivity and expand your plate reader's capabilities. Find a complete range of accessories on www.biotek.com.



Agilent BenchCel Microplate Handler

The BenchCel Microplate Handler integrates to Synergy Neo2, Cytation 5 and Epoch 2, along with EL406 and MultiFlo FX liquid handlers to automate workflows, including ELISA, add/read protocols and cell fixing, staining and imaging processes.



BioStack™ Microplate Stacker

Automate routine multi-mode detection processes with the compact BioStack Microplate Stacker. BioStack 4 offers patented plate de-lidding and re-lidding for sensitive cell-based workflows. BioStack Neo is a dedicated stacker offering super-fast plate processing exclusively for Synergy™ Neo2.



BioSpa™ 8 Automated Incubator

BioSpa Automated Incubator optimizes plate reading workflows for multiple plates and multiple users. Built-in scheduling, environmental monitoring and available liquid handling allow you to walk away with confidence – and allows multiple users to run processes simultaneously without disrupting others.



CO₂/O₂ Controller

The compact Gas Controller integrates easily with Cytation, Synergy Neo2 or Synergy H1, enabling full control over CO₂ and O₂ concentrations to help regulate the environment for live cell assays.



Dual Reagent Injector

The dual reagent injector module for Synergy and Cytation readers allows fast inject/read operations.



Peltier cooling module

The Peltier Cooling Module for Cytation promotes interior cool down after incubated processes, to allow efficient switching between multiple applications without unwanted temperature influences.

Instrument Comparison

	Synergy™ Neo2	Cytation™	Synergy H1	Synergy HTX	Synergy LX
General					
Microplate types	6 to 1536	6 to 384 (monochromator) 6 to 1536 (filters and imaging)	6 to 384	6 to 384	6 to 384 (onboard, absorbance) 96 and 384 (onboard, FL & LUM) 6 to 384 (via Gen5, all modes)
Gas Controller compatible	•	•	•		
BioSpa™ 8 Automated Incubator compatible	•	•	•		
BioStack™ compatible/ automation-ready	•	•	•	•	
Dual reagent injector compatible	•	•	•	•	
Take3™ Micro-Volume Plate compatible	•	•	•	•	•
Temperature control system	to 70 °C	to 45 °C (Cytation 7, Cytation 1) to 65 °C (Cytation 5)	to 70 °C ("M2" configurations)	to 50 °C	
Peltier Cooling Module option		•			
Condensation Control™	•	•	•	•	
Key Features & Application Areas					
Monochromator-based UV-Visible absorbance	•	•	•	•	•
Monochromator-based fluorescence	•	•	•		
Variable bandwidth fluorescence monochromator	•	Cytation 7, Cytation 5	•		
Filter-based fluorescence	•	Cytation 5, Cytation 1	•	•	•
Luminescence	•	•	•	•	•
Filtered luminescence	•	Cytation 5, Cytation 1	•	•	•
TRF & TR-FRET	•	Cytation 5, Cytation 1	•	(secondary mode)	
TRF Laser	•				
Fluorescence polarization	•	Cytation 5, Cytation 1	•		
AlphaLISA/AlphaScreen	100 mw 680 nm laser	100 mw 680 nm laser (Cytation 5)		•	
Patented Hybrid Technology™	•	Cytation 5	•		
Dual PMT read head	•				
Upgradable to imaging		•			



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MMBR06102021