Автоматические считыватели микропланшетов

Технические характеристики

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EPOCH 2

microplate spectrophotometer

Epoch 2 is a compact monochromator-based microplate spectrophotometer for 6- to 384-well microplates, cuvettes and 2 µL measurements. Epoch 2 features a color touchscreen interface with easy to navigate controls, and onboard software for data collection, analysis and flexible export and report options. Incubation, shaking and robot compatibility are standard features.

UV-Vis Measurements

Epoch 2's monochromator-based optics offer wavelength selection from 200 to 999 nm – for applications from nucleic acid quantification to ELISA, without using filters. Epoch 2 can measure up to forty-eight 2 µL samples in the unique Take3 Micro-Volume plates for rapid direct quantification.
An optional cuvette port provides 1 cm measurements, making Epoch 2 a versatile spectrophotometer for multiple applications.

Touch. Run. Done.

Designed for easy-to-use, yet powerful functionality, Epoch 2 features a color touchscreen interface, USB connectivity and flash drive storage. It's a space- and cost-saving design, configurable for the laboratory's needs today and in the future.

Touchscreen and Onboard Software

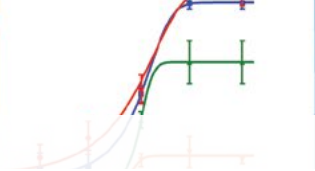
The touchscreen enables easy program creation and selection for a wide range of endpoint and kinetic assays. The Quick Read function provides the fastest read-to-results. Select from predefined programs or create new programs for basic data analysis. Use the convenient flash drive or available printer for data output. Available Gen5 software enables computer control of all Epoch 2 read modes, including well area scanning and expanded data analysis capabilities. When controlled by Gen5, Epoch 2 is automation compatible.

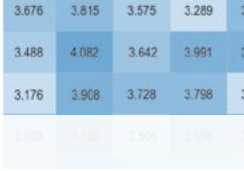
Advanced 4-Zone Incubation

Epoch 2 features BioTek's 4-Zone natural convection incubator up to 65 °C with minimal variation across the plate – ideal for a wide range of temperature-sensitive assays. Epoch 2's unique Condensation Control, solves the common problem of condensation build-up on plate lids during incubated kinetic runs. Epoch 2 can be integrated with the Agilent BenchCel Microplate Handler or BioSpa 8 Automated Incubator for unattended automation.

TYPICAL RESEARCH APPLICATIONS

- ELISA
- Enzyme kinetics
- Nucleic acid and protein quantification
- Cell proliferation
- Cytotoxicity
- Spectral scanning
- Reactive oxygen species
- Food safety and quality
- Bacterial identification
- Total protein determination
- Nucleic acid purity assessment





TECHNICAL DETAILS

General	
Detection mode	Absorbance
Read methods	Endpoint, kinetic, well area scanning
Microplate types	6- to 384-well plates
Other labware	Take3 Micro-Volume plates, standard cuvettes (option)
Temperature control	4-Zone incubation to 65 °C
Shaking	Linear, orbital, double-orbital
Onboard software	Protocol creation including endpoint and kinetic reading parameters, basic data analysis, reporting and exporting.
Software	Gen5 Microplate Reader and Imager Software included Gen5 Secure for 21 CFR Part 11 compliance (option)
Automation	BioStack and 3rd party automation compatible BioSpa 8 Automated Incubator compatible
Absorbance	
Light source	Xenon flash
Detector	Photodiode
Wavelength selection	Monochromator
Wavelength range	200 - 999 nm, in 1 nm increments
Monochromator bandwidth	2.9 nm
Dynamic range	0 - 4.0 OD
Resolution	0.0001 OD
Pathlength correction	Yes
Monochromator wavelength accuracy	±2 nm
Monochromator wavelength repeatability	±0.2 nm
OD accuracy	0.0 to 2.0 OD ± 1% ± 0.010 OD 2.0 to 2.5 OD ± 3% ± 0.010 OD
OD linearity	0 to 2.0 OD: ±1% ±0.010 2.0 to 2.5 OD: ±3% ±0.010
OD repeatability	0 to 2.0 OD: ±1% ±0.005 2.0 to 2.5 OD: ±3% ±0.005
Stray light	0.03% at 230 nm
Reading speed (kinetic)	96 wells: 8 seconds 384 wells: 14 seconds
Physical Characteristics	
Power consumption	120 W max
Dimensions	With touchscreen: 12.5" W x 15.5" D x 13" H (31.8 x 39.3 x 33 cm) Without touchscreen: 12.5" W x 15.5" D x 8" H (31.8 x 39.3 x 20.3 cm)
Weight	With touchscreen: 25 lb (11.3 kg) Without touchscreen: 20 lb (9.1 kg)
Regulatory	
Regulatory	CE and TUV marked. RoHS compliant. Models for In Vitro Diagnostic use may be available.

EPOCH

microplate spectrophotometer

Epoch is a monochromator-based microplate spectrophotometer that offers functionality for the life science laboratory at an accessible price. Controlled by the powerful, yet easy-to-use Gen5 Software, Epoch is designed to be the new lab workhorse for a wide variety of applications. For walkaway automation, an optional BioStack compatible Epoch is available.

200 to 999 nm Wavelength Range

The monochromator-based optical system in Epoch allows any wavelength selection between 200 and 999 nm in 1 nm increments. No filters required! From low UV nucleic acid measurements to standard ELISA assays, Epoch is ideally suited to the life science laboratory where application flexibility is required.

6- to 384-well Microplate Reading

Epoch's optical and mechanical systems are designed to provide optimal measurements in a variety of microplates. The area scanning capability provides multiple measurements across larger diameter wells, resulting in more meaningful data analysis.

Take3 Micro-Volume Plate Compatible

When sample size matters, as in critical nucleic acid and protein quantification, the Take3 plate provides up to sixteen 2 µL measurements – without needing to dilute important samples.

Endpoint, Kinetic, Spectral Scanning

There's no need to buy expensive instrumentation to perform a variety of absorbance measurements. Epoch, driven by Gen5 Software, is a high-value system with maximum assay flexibility.

TYPICAL RESEARCH APPLICATIONS

- Nucleic acid quantification
- Protein quantification
- 260/280 and 260/230 purity measurements
- ELISA
- Enzyme kinetics
- Cytotoxicity
- Cell proliferation
- Micro-volume assays with Take3 plate

Technical Details

General	
Detection mode	Absorbance
Read methods	Endpoint, kinetic, well area scanning
Microplate types	6- to 384-well plates
Other labware	Take3 Micro-Volume plates
Software	Gen5 Microplate Reader and Imager Software included Gen5 Secure for 21 CFR Part 11 compliance (option)
Automation	BioStack and 3rd party automation compatible ("R"model)
Absorbance	
Light source	Xenon flash
Detector	Photodiode
Wavelength selection	Monochromator
Wavelength range	200 - 999 nm, in 1 nm increments
Monochromator bandwidth	5 nm
Dynamic range	0 - 4.0 OD
Resolution	0.0001 OD
Pathlength correction	Yes
Monochromator wavelength accuracy	±2 nm
Monochromator wavelength repeatability	±0.2 nm
OD accuracy	0.0 to 2.0 OD ± 1% ± 0.010 OD 2.0 to 2.5 OD ± 3% ± 0.010 OD
OD linearity	0 to 2.0 OD: ±1% ±0.010 2.0 to 2.5 OD: ±3% ±0.010
OD repeatability	0 to 2.0 OD: ±1% ±0.005 2.0 to 2.5 OD: ±3% ±0.005
Reading speed (kinetic)	96 wells: 15 seconds 384 wells: 31 seconds
Physical Characteristics	
Power consumption	48 W max
Dimensions	12" W x 12.5" D x 7.7" H (30.5 x 31.8 x 19.6 cm)
Weight	<15 lb (6.8 kg)
Regulatory	
Regulatory	CE and TUV marked. RoHS compliant. Models for In Vitro Diagnostic use may be available.

LOGPHASE 600

microbiology reader

The LogPhase 600 Microbiology Reader is in a class of its own, designed for measuring microbial growth curves in up to four standard 96-well microplates at a time. It features purpose-built, robust shaking and consistent temperature control, which are critical to optimal bacteria and yeast cell growth, ensuring data quality. The LogPhase 600 is controlled with an App to acquire data and perform microbiology-focused analysis for all plates.

4-Plate Microplate Reader

LogPhase 600 is a 4-plate microplate reader that facilitates microbial growth assays.

Keep Your Cells in Suspension for Optimal Growth

The shaking mechanism in LogPhase 600 is specifically designed for microbial growth assays; its robust shaking ensures that your cells will not settle, even during long term kinetic assays.

Optimized Incubation

Consistent temperature control is essential to successful microbial growth assays. Incubation in the LogPhase 600 is controlled by several sensors to ensure even heating throughout, without edge effect or evaporation. Incubation can be inconsistent in some microplate readers, but LogPhase 600 ensures consistent inter- and intra-plate heating.

Condensation Control

Condensation Control sets a temperature gradient from top to bottom to prevent condensation on the sealed plates that can cause light scatter and reading artifacts.

Consistent Growth Conditions = Consistent Data

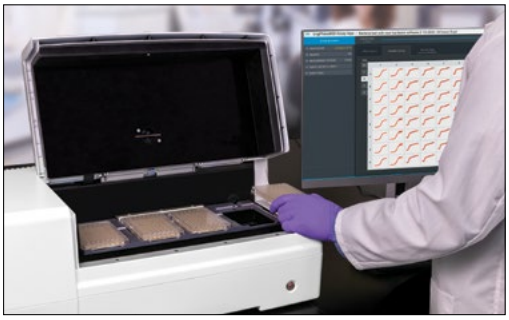
LogPhase 600 provides consistent growth conditions that are essential for microbial growth assays.

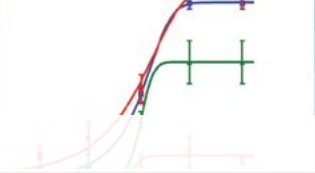
Targeted, Powerful and Easy-to-Use App

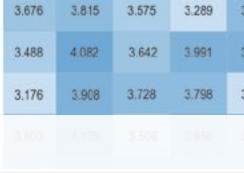
The LogPhase 600 App has an easy-to-use interface with analysis tools designed for microbial growth researchers. New users can be up and running in minutes with very little training. Multi-plate data can be viewed on the screen at the same time. The app automatically calculates lag time, maximum rate (OD/min) and time to stationary phase.

TYPICAL RESEARCH APPLICATIONS

- Yeast growth assays
- Bacterial growth assays
- Antimicrobial resistance
- Algal research
- Biofuels research
- Food and beverage testing







TECHNICAL DETAILS

General	
Detection modes	Absorbance
Microplate types	96-well microplates
Microplate capacity	4-microplate capacity
Temperature control	Incubation to 45 °C with Condensation Control Variation ±0.5 °C at 37 °C Plate to plate uniformity ±0.5 °C at 37 °C
Shaking	Orbital, user-selectable velocity
Software	LogPhase App included; provides reader control, data collection and complete analysis.
Absorbance	
Light source	LED
Detector	2 photodiodes (measurement & reference)
Wavelength range	560 nm – 640 nm, configuration dependent
Read methods	Discontinuous kinetic
Dynamic range	0 - 4.0 OD
Resolution	0.001 OD
OD accuracy	0.000 to 2.000 OD ± 1% ± 0.010 OD
OD linearity	0.000 to 2.000 OD ± 1% ± 0.010 OD
OD repeatability	0.000 to 2.000 OD ± 1% ± 0.005 OD
Reading speed	Reading speed: <60 sec per plate Minimum kinetic interval: 2 min 30 sec (<60 sec read time; 90 sec shake) per plate
Physical Characteristics	
Power consumption	24 VDC power supply compatible with 100-240 volts AC @50-60Hz, 250W (minimum)
Dimensions	10.5" H x 26.0" W x 16.0" D (26.7 x 66 x 40.6 cm)
Weight	50 lbs (22.7 kg)
Regulatory	
Regulatory	CE and TUV marked. RoHS compliant. Models for In Vitro Diagnostic use may be available.

SYNERGY|neo2

hybrid multi-mode reader

Synergy Neo2 Multi-Mode Microplate Reader is designed for the screening laboratory, with speed and ultra-high performance. Synergy Neo2 features BioTek's patented Hybrid Technology, with its independent optical paths that ensure uncompromised performance in all detection modes.

Patented Hybrid Technology

Some workflows benefit from the flexibility of monochromator-based optical systems; there's no need to purchase multiple filters, and when a fluorophore's spectral peaks are unknown, monochromators can scan to find the ideal excitation and emission peaks. Other assays require the high sensitivity found in filter-based optical systems. BioTek's patented Hybrid Technology offers both major benefits in a single platform, so there's no compromise of performance or flexibility.

Variable Bandwidth Quad Monochromators

Synergy Neo2's monochromators have variable bandwidths for excitation and emission. Selectable from 3 - 50 nm in 1 nm increments, these continuously variable bandwidths help optimize detection of some fluorophores. Detection parameters for complex multiplexed assays like FRET and SNPs can be fine-tuned for the highest signal with the lowest crosstalk – and the results you expect.

Ultra-Fast: Two lasers and Multiple PMT Detectors

High throughput isn't just about fast plate reading – a high throughput multi-mode reader should handle common and complex assays with equally high performance, even in 1536-well plates. Synergy Neo2 has a TRF laser to provide the fastest measurements with excellent sensitivity for critical screening applications like TRF and TR-FRET. Laser-based excitation ensures the best performance for Alpha assays.

Controlled Environment for Live Cell Assays

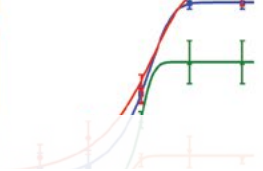
Along with incubation to 65 °C and shaking, Synergy Neo2 can be equipped with a CO_2/O_2 controller to provide the ideal environment for robust live cell assays. Direct bottom detection provides ultra sensitivity for measuring cell-based fluorescence intensity. To automate live cell workflows, Synergy Neo2 integrates with the Agilent BenchCel Microplate Handler and BioSpa 8 Automated Incubator.

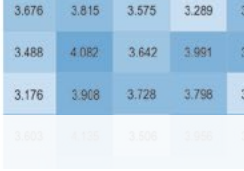
TYPICAL RESEARCH APPLICATIONS

- HTS screening
- Drug absorption and metabolism
- Biologics drug discovery and development
- Drug discovery
- Cell proliferation
- Cytotoxicity
- Biomarker quantification
- Genetic analysis
- Environmental testing
- Food safety
- Nucleic acid quantification
- Protein quantification

PATENTED HYBRID OPTICS

TECHNICAL DETAILS





General	
Detection modes	UV-Vis absorbance Fluorescence intensity Luminescence Fluorescence polarization Time-resolved fluorescence Alpha detection
Read methods	Endpoint, kinetic, spectral scanning, well area scanning
Microplate types	6- to 1536-well plates
Other labware	Petri and cell culture dishes Take3 Micro-Volume Plates
Temperature control	4-Zone incubation to 65 °C with Condensation Control
Shaking	Linear, orbital, double orbital
Software	Gen5 Microplate Reader and Imager Software included Gen5 Secure for 21 CFR Part 11 compliance (option)
Automation	BioStack and 3rd party automation compatible BioSpa 8 Automated Incubator compatible
CO_2 and O_2 control	0 - 20% CO_2 control and 1 - 19% O_2 control, with optional Gas Controller
Barcode reader	1D and 2D camera-based scanner

Absorbance	
Light source	Xenon flash
Detector	Photodiode
Wavelength selection	Monochromator
Wavelength range	230 - 999 nm, in 1 nm increments
Monochromator bandwidth	2 nm (230 - 285 nm); 4 nm (>285 nm)
Dynamic range	0 - 4.0 OD
Resolution	0.0001 OD
Pathlength correction	Yes
Monochromator wavelength accuracy	±2 nm
Monochromator wavelength repeatability	±0.2 nm
OD accuracy	<1% at 2.0 OD <3% at 3.0 OD
OD linearity	<1% from 0 to 3.0 OD
OD repeatability	<0.5% at 2.0 OD
Stray light	0.03% at 230 nm
Reading speed (kinetic)	96 well: 6 seconds 384 well: 11 seconds 1536 well: 25 seconds

Fluorescence Intensity	
Light source	Xenon flash
Detector	Dual top PMTs Single top PMT (option) Low noise PMT (bottom filter system) Red shifted PMT (top/bottom monochromator system)
Wavelength selection	Quad monochromators (top/bottom) Filters (top/bottom)
Wavelength range	Monochromators: 250 - 850 nm Filters (dual PMT): 200 - 850 nm
Monochromator bandwidth	Variable; from 3 - 50 nm, in 1 nm increments
Dynamic range	7 decades
Sensitivity (Fluorescein)	Filters: 0.2 pM (4 amol/well, 384-well low vol plate) - top 1 pM (10 amol/well, 1536-well plate) - top 1 pM (0.1 fmol/well, 384-well plate) - bottom Quad Monochromator: 2 pM (40 amol/well, 384-well low vol plate) - top 2.5 pM (0.25 fmol/well, 384-well plate) - bottom
Reading speed (kinetic)	96 well: 6 seconds 384 well: 11 seconds 1536 well: 25 seconds

Luminescence	
Wavelength range	300 - 700 nm
Dynamic range	>6 decades
Sensitivity	5 amol ATP (384-well low volume plate)

Fluorescence Polarization	
Light source	Xenon flash
Detector	Dual PMT or single PMT (option)
Wavelength selection	Filters
Wavelength range	280 - 850 nm
Sensitivity	1 mP standard deviation at 1 nM fluorescein (384-well low volume plate) 1.5 mP standard deviation at 1 nM fluorescein (1536-well plate)

Time-Resolved Fluorescence	
Light source	Xenon flash or TRF laser (option)
Detector	Dual PMT or single PMT (option)
Wavelength selection	Quad monochromators (top/bottom) Filters (top/bottom)
Wavelength range	Monos: 250 - 850 nm Filters (dual PMT): 200 - 850 nm
Sensitivity	With TRF laser: 5 fM (384-well low volume plate) With Xenon flash lamp: 40 fM (384-well low volume plate)

Alpha Detection	
Light source	100 mW 680 nm laser
Detector	PMT
Wavelength selection	Filters (top)
Sensitivity	100 amol bio-LCK-P (384-well low volume plate)
Read speed	96 well: 30 seconds 384 well: 1 minute 50 seconds 1536 well: 7 minutes 20 seconds

Reagent Injectors	
Number	2 syringe pumps
Supported labware	6- to 384-well plates, Petri dishes
Dead volume	1.1 mL with back flush
Dispense volume	5 - 1000 µL in 1 µL increments

Physical Characteristics	
Power consumption	250 W max
Dimensions	Without TRF laser: 15.4" W x 20.7" D x 16.1" H (39.2 x 52.5 x 40.8 cm) With TRF laser: 15.4" W x 24.2" D x 16.1" H (39.2 x 61.4 x 40.8 cm)
Weight	78 lb (35kg)

Regulatory	
Regulatory	CE and TUV marked. RoHS Compliant. Models for In Vitro Diagnostic use may be available.

800|TS

microplate absorbance reader

For high quality microplate reading at an affordable price, look no further than the 800 TS Absorbance Reader with its robust hardware and powerful software.

Wide Range of Applications

The 800 TS is ideal for a variety of applications including ELISA, protein and other endpoint protocols. Incubation and shaking expand the application range to include enzyme kinetics and cell-based assays. The 800 TS partners perfectly with the 50 TS Microplate Washer to automate all your workflows.

Quick and Easy Programming

The touchscreen interface makes protocol creation intuitive and simple. Defined protocols are saved onboard for convenient, quick selection. The 800 TS reads the plate efficiently, delivering results quickly and reliably.

USB Flash Drive Convenience

Results are displayed immediately after measurement, and can be sent to the optional printer or a USB flash drive. Import data to Gen5 Software for advanced data handling and custom reporting.

High Performance, Excellent Results

With the 800 TS, affordability doesn't mean compromised performance. The high quality hardware and optical design ensure results for all assays. As an FDA registered and ISO certified manufacturer, BioTek understands the importance of performance and data verification. Verify and qualify the 800 TS performance over time, using BioTek's Absorbance Test Plate and Product Qualification Package.

TYPICAL RESEARCH APPLICATIONS

- ELISA
- Enzyme kinetics
- Protein assays
- Cell-based assays

Technical Details

General	
Detection mode	Absorbance
Read methods	Endpoint, kinetic and well area scanning (under computer control)
Microplate types	6-, 12-, 24-, 48-, 96-well microplates; 384-well and Terasaki trays (NB configurations)
Temperature control	To 50 °C
Shaking	Linear (except NB configurations)
User interface	4.3" color LCD touchscreen display
Onboard software	Up to 40 user-programmable protocols
Software	Gen5 Software included Gen5 Secure Software (option)
Absorbance	
Light source	Tungsten halogen lamp
Detector	Photodiode
Wavelength selection	Filters
Wavelength range	400 - 750 nm; 340 - 750 nm (UV configurations)
Filter capacity/supplied	5 positions/4 (5 with UV configurations)
Dynamic range	0 - 4.0 OD (normal & rapid read modes)
Resolution	0.001 OD (standalone mode) 0.0001 OD (under Gen5 control)
OD accuracy	Normal read mode ±1.0% ±0.010 OD from 0.0 to 2.0 OD @ 405 nm
OD linearity	Normal read mode ±1.0% ±0.010 OD from 0.0 to 2.0 OD @ 405 nm
OD repeatability	Normal read mode ±0.5% ±0.005 OD from 0.0 to 2.0 OD @ 405 nm
Read speed	96 wells, single wavelength Normal/Rapid/Sweep read mode: 30 seconds/ 18 seconds/11 seconds
Physical Characteristics	
Power consumption	40 W max 150 W max with incubation
Dimensions	15" W x 16.5" D x 7" H (38.1 x 41.9 x 17.8 cm)
Weight	18.5 lb (8 kg)
Regulatory	
Regulatory	CE and TUV marked. RoHS compliant. Models for In Vitro Diagnostic use may be available.

SYNERGY|H1

hybrid multi-mode reader

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

Hybrid Plate Reader: Flexibility and Performance

With its patented combination of monochromator and filter optics, Synergy H1 is an advanced plate reader that delivers both the flexibility and performance you need for any microplate assay in your lab. Monochromators offer variable bandwidth, UV-Vis absorbance, fluorescence intensity, luminescence; filters enable fluorescence intensity, polarization, time-resolved fluorescence and filtered luminescence.

Upgradable to Meet Future Application Needs

Synergy H1's modular design allows you to start with what you need now, and add detection modes, gas control and dual reagent injectors as your laboratory's workflows evolve.

Variable Bandwidth for Sensitivity and Specificity

Synergy H1 offers quad monochromator optics with variable bandwidth. The excitation and emission bandwidths can be set between 9 nm and 50 nm, in 1 nm increments. Large bandwidths provide increased sensitivity and lower limits of detection. Small bandwidths provide increased specificity when multiple signals are present, reducing crosstalk and enhancing assay performance.

Automated Z-Focus: Best Performance With all Plate Types

Without automated z-focus available, performance at low volumes is affected. Automated z-focus enables reading height to be precisely adjusted for best performance in all plate types and all volumes.

Extended Dynamic Range

Synergy H1 offers an extended dynamic range, which allows detection of signals across a 7 log measurement range. Other systems can measure only small portions of the dynamic range of Synergy H1 using preset gains – this can cause reduced sensitivity on the low end or saturated signals on the high end of the assay signal range.

Environmental Controls for Cell-Based Assays

Temperature control to 45 °C, condensation control, CO_2/O_2 control and shaking create the ideal environment for live cell assay workflows. A consistent environment leads to consistent data for long-term kinetic assays.

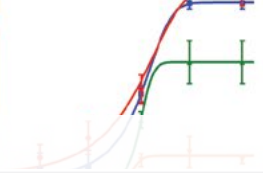
Dual Syringe Injectors With Specialized Tips

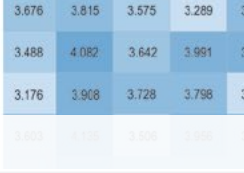
The robust precise dual syringe design eliminates the need for regular tubing replacement required by some peristaltic pump injector designs. Synergy H1 offers two tip types: straight tips enable vigorous mixing for rapid inject/read assays, and angled tip option won't disturb cell layers for applications such as calcium kinetics.

TYPICAL RESEARCH APPLICATIONS

- ELISA
- Luciferase reporter assays
- Nucleic acid and protein quantification
- Microbial growth assays
- TR-FRET
- Fluorescence polarization
- BRET
- Enzyme kinetics
- Protein aggregation
- Cell-based assays
- Metabolic activity
- ROS

PATENTED HYBRID OPTICS





TECHNICAL DETAILS

General	
Detection modes	UV-Vis absorbance Fluorescence intensity Luminescence Fluorescence polarization Time-resolved fluorescence
Read methods	Endpoint, kinetic, spectral scanning, well area scanning
Microplate types	6- to 384-well plates
Other labware	Petri and cell culture dishes Take3 Micro-Volume Plates
Temperature control	4-Zone incubation to 45 °C with Condensation Control
Shaking	Linear, orbital, double orbital
Software	Gen5 Microplate Reader and Imager Software included Gen5 Secure for 21 CFR Part 11 compliance (option)
Automation	BioStack and 3rd party automation compatible BioSpa 8 Automated Incubator compatible
CO_2 and O_2 control	0 - 20% CO_2 control and 1 - 19% O_2 control, with optional Gas Controller

Absorbance	
Light source	Xenon flash
Detector	Photodiode
Wavelength selection	Monochromator
Wavelength range	230 - 999 nm, in 1 nm increments
Monochromator bandwidth	4 nm (230 - 285 nm); 8 nm (>285 nm)
Dynamic range	0 - 4.0 OD
Resolution	0.0001 OD
Pathlength correction	Yes
Monochromator wavelength accuracy	±2 nm
Monochromator wavelength repeatability	±0.2 nm
OD accuracy	<1% at 2.0 OD <3% at 3.0 OD
OD linearity	<1% from 0 to 3.0 OD
OD repeatability	<0.5% at 2.0 OD
Stray light	0.03% at 230 nm
Reading speed (kinetic)	96 wells: 11 seconds 384 wells: 22 seconds

Fluorescence Intensity	
Light source	Xenon flash
Detector	PMT (monochromator system) PMT (filter system)
Wavelength selection	Quad monochromators (top/bottom) Filters (top)
Wavelength range	Monochromators: 250 - 700 nm (900 nm option)
Monochromator bandwidth	Variable: from 9 to 50 nm in 1 nm increments ("H1M2" configurations) Fixed: 16 nm
Dynamic range	7 decades
Sensitivity (Fluorescein)	Filters: 0.25 pM (0.025 fmol/well, 384-well plate) Quad Monochromator: 2.5 pM (0.25 fmol/well, 384-well plate) - top 4 pM (0.4 fmol/well, 384-well plate) - bottom
Reading speed (kinetic)	96 well: 11 seconds 384 well: 22 seconds

Luminescence	
Sensitivity	Monos: 20 amol ATP Filters: 10 amol ATP

Fluorescence Polarization	
Light source	Xenon flash
Detector	PMT
Wavelength selection	Filters
Wavelength range	Excitation range: 330 - 700 nm Emission range: 400 - 700 nm
Sensitivity	2 mP standard deviation at 1 nm fluorescein

Time-Resolved Fluorescence	
Light source	Xenon flash
Detector	PMT
Wavelength selection	Filters (top)
Sensitivity	<40 fM

Reagent Injectors	
Number	2 syringe pumps
Supported labware	6- to 384-well plates, Petri dishes
Dead volume	1.1 mL with back flush
Dispense volume	5 - 1000 µL in 1 µL increments
Dispense accuracy	±1 µL or 2%
Dispense precision	≤2% at 50 - 200 µL

Physical Characteristics	
Power consumption	130 W max
Dimensions	15.4" W x 18.6" D x 12.9" H (39.1 x 47.2 x 32.8 cm)
Weight	50 lb (22.6 kg)

Regulatory	
Regulatory	CE and TUV marked. RoHS Compliant. Models for In Vitro Diagnostic use may be available.

SYNERGY|HTX

multi-mode reader

The Synergy HTX is an entry-level, affordable and upgradable multi-mode microplate reader. Available read modes include top and bottom fluorescence, UV-visible absorbance and luminescence detection. Temperature control to 50 °C, shaking and advanced Gen5 Software are also included. A dual reagent injector module is available for all read modes and plate types.

Ideal for Basic Research Applications

The Synergy HTX is the ideal instrument for nucleic acid and protein quantification, enzyme assays, biomarker quantification and ELISA assays, as well as cell-based assays (gene expression, cellular growth, cytotoxicity).

AlphaScreen®/AlphaLISA®

AlphaScreen and AlphaLISA assays can be performed on Synergy HTX with excellent results. Alpha-capable configurations add assay versatility to basic research requirements.

Sensitive Filter-Based Fluorescence

Two excitation and two emission filters are included with the reader, and can be used for top and bottom reading. Bottom reading is usually recommended when working with adherent cells, as it often provides better signal-to-background ratios. Top reading is typically best for assays where the fluorescence signal comes from the solution.

Flexible Monochromator-Based Absorbance

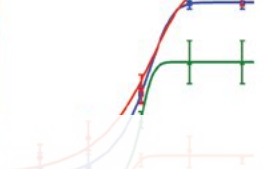
All Synergy readers use monochromators for absorbance detection. This provides unlimited wavelength selection from the low UV to the near infrared, in 1 nm increments and enables spectral scanning.

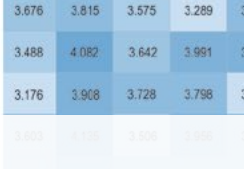
Low-Noise Luminescence Detection

The Synergy HTX can automate glow and flash luminescence assays, thanks to its optional dual reagent injector module. Typical assays include ATP quantification as well as luciferase gene expression assays.

TYPICAL RESEARCH APPLICATIONS

- AlphaScreen/AlphaLISA
- Nucleic acid quantification
- Protein quantification
- Enzyme kinetics
- Biomarker quantification
- ELISAs
- Genetic analysis
- Cell proliferation
- Cytotoxicity
- Drug absorption and metabolism
- Food safety
- Environmental monitoring





TECHNICAL DETAILS

General	
Detection modes	UV-Vis absorbance Fluorescence intensity Luminescence Time-resolved fluorescence (secondary mode) Alpha detection
Read methods	Endpoint, kinetic, spectral scanning, well area scanning
Microplate types	6- to 384-well plates
Other labware	PCR plates, Petri and cell culture dishes Take3 Micro-Volume Plates
Temperature control	4-Zone incubation to 50 °C with Condensation Control
Shaking	Linear, orbital
Software	Gen5 Microplate Reader and Imager Software included Gen5 Secure for 21 CFR Part 11 compliance (option)
Automation	BioStack and 3rd party automation compatible
Absorbance	
Light source	Xenon flash
Detector	Photodiode
Wavelength selection	Monochromator
Wavelength range	200 - 999 nm, in 1 nm increments
Monochromator bandwidth	2.4 nm
Dynamic range	0 - 4.0 OD
Resolution	0.0001 OD
Pathlength correction	Yes
Monochromator wavelength accuracy	±2 nm
Monochromator wavelength repeatability	±0.2 nm
OD accuracy	<1% at 2.0 OD <3% at 3.0 OD
OD linearity	<1% from 0 to 3.0 OD
OD repeatability	<0.5% at 2.0 OD
Stray light	0.03% at 230 nm
Reading speed (kinetic)	96 wells: 14 seconds 384 wells: 26 seconds
Fluorescence Intensity	
Light source	Tungsten halogen Xenon flash (option)
Detector	PMT
Wavelength selection	Filters
Wavelength range	300 - 700 nm (200 - 850 nm option)
Dynamic range	>6 decades
Sensitivity (Fluorescein)	5 pM (1 fmol/well, 96-well plate) - top and bottom
Reading speed (kinetic)	96 wells: 31 seconds 384 wells: 80 seconds

Luminescence	
Wavelength range	300 - 700 nm
Dynamic range	>6 decades
Sensitivity	10 amol ATP (flash) - Lum and Abs / Lum configurations 30 amol ATP (flash) - Multi-mode configurations
Time-Resolved Fluorescence	
Light source	Xenon flash
Detector	PMT
Wavelength selection	Monochromator
Alpha Detection	
Light source	Tungsten halogen
Detector	PMT
Wavelength selection	Filters
Sensitivity	300 amol bio-LCK-P, 25 µL/well in 384-well plate
Read speed	96 well: 2 minutes
Reagent Injectors	
Supported detection modes	All modes
Number	2 syringe pumps
Supported labware	6- to 384-well plates
Dead volume	1.1 mL with back flush
Dispense volume	5 - 1000 µL in 1 µL increments
Dispense accuracy	±1 µL or 2%
Dispense precision	≤2% at 50 - 200 µL
Physical Characteristics	
Power consumption	130 W max
Dimensions	16" W x 15" D x 10" H (40.6 x 38.1 x 25.4 cm)
Weight	40 lb (18 kg)
Regulatory	
Regulatory	CE and TUV marked. RoHS Compliant. Models for In Vitro Diagnostic use may be available.

SYNERGY|LX

multi-mode reader

UV-Vis absorbance, fluorescence and luminescence detection are just a touch away, with Synergy LX Multi-Mode Microplate Reader. The color touchscreen simplifies programming and offers quick data display and output to a USB drive, printer or PC with powerful Gen5 Software. Synergy LX is the ideal microplate reader for many common endpoint assays including nucleic acid and protein quantification, ELISA and cell viability.

Affordable, Excellent Performance

At about half the price of similar instruments, Synergy LX is the solution for labs looking for an easy-to-use microplate reader for UV-Vis, fluorescence and luminescence assays. The independent optical paths use high quality components, ensuring uncompromised performance in all detection modes.

Common Assays

Synergy LX supports most common assays. The monochromator-based absorbance optics enable a wide range of UV-Vis measurements, including nucleic acid and protein quantification, while easily exchanged filter cubes make the Synergy LX a practical workstation for fluorescence intensity and luminescence assays. The onboard software includes several pre-programmed protocols, and allows easy programming for unique requirements.

Micro-Volume Quantification

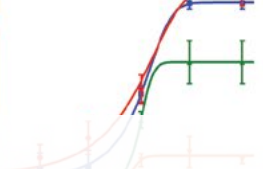
Use BioTek's Take3 Micro-Volume Plate with Synergy LX for fast and easy nucleic acid and protein determinations. Pre-programmed protocols in Synergy LX display immediate results for up to sixteen 2 µL samples. Output results to a USB flash drive for use in downstream workflows.

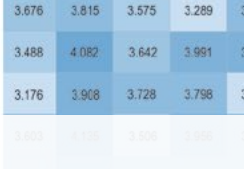
Easy Operation

With its large color touchscreen, Synergy LX makes it simple to select and run a protocol. The data is displayed immediately after the measurement with a color gradient to help quickly visualize the data range.

TYPICAL RESEARCH APPLICATIONS

- Nucleic acid quantification (A_{260} and fluorescence-based)
- Nucleic acid purity assessment (A_{260}/A_{280})
- Micro-volume nucleic acid quantification (with Take3 Plate)
- ELISA
- Fluorescence ELISA
- Protein quantification
- Gene expression (luminescence and fluorescence)
- Cell viability assays
  - Absorbance MTT
  - Luminescence ATP
  - Various fluorescence-based





TECHNICAL DETAILS

General	
Detection modes	UV-Vis absorbance Fluorescence intensity Luminescence
Read methods	Endpoint (onboard software) Endpoint, kinetic, area scanning, absorbance spectral scanning (under Gen5 control)
Microplate types	UV-Vis absorbance: 6- to 384-well plates (onboard software) Fluorescence intensity and luminescence: 96- and 384-well (onboard software) All modes: 6- to 384-well microplates (under Gen5 control)
Other labware	Take3 Micro-Volume Plates Take3 Trio Micro-Volume Plates (under Gen5 control)
Shaking	Linear, orbital, double-orbital
Software	Endpoint protocols (onboard software) Full data analysis and reporting (under Gen5 control)
Absorbance	
Light source	Xenon flash
Detector	Photodiode
Wavelength selection	Monochromator
Wavelength range	200 - 999 nm, in 1 nm increments
Monochromator bandwidth	≤5 nm
Wavelength accuracy	±2 nm
Wavelength repeatability	±0.2 nm (standard deviation)
Dynamic range	0 to 4.0 OD
Resolution	0.001 OD (onboard software) 0.0001 OD (under Gen5 control)
Pathlength correction	Yes (under Gen5 Control)
OD accuracy	<1% at 2.0 OD <3% at 2.5 OD
OD linearity	<1% from 0 to 2.5 OD
OD repeatability	<0.5% at 2.0 OD
Stray light	0.03% at 230 nm
Reading speed (kinetic*)	96 wells: 12 seconds 384 wells: 23 seconds (*under Gen5 control)

Fluorescence Intensity	
Light source	Halogen
Detector	PMT
Wavelength selection	Bandpass filters
Wavelength range	320 - 700 nm (low noise PMT) 320 - 850 nm (red-shifted PMT)
Dynamic range	>6 decades
Sensitivity	2 pM fluorescein
Reading speed (kinetic*)	96 wells: 24 seconds 384 wells: 76 seconds (*under Gen5 control)
Luminescence	
Dynamic range	>6 decades
Sensitivity	10 amol ATP
Physical Characteristics	
Power consumption	60 W max
Connectivity	(1) USB 2.0 ports for computer control, (2) USB 2.0 ports for printer connection and USB thumb drive (touchscreen configurations only)
Dimensions	15″ W x 15″ D x 15″ H (with touchscreen) (38.1 x 38.1 x 38.1 cm) 15″ W x 15″ D x 12″ H (38.1 x 38.1 x 30.5 cm)
Weight	≤27 lb (12.3 kg)
Regulatory	
Regulatory	CE and TUV marked. RoHS compliant. IVD configurations may be available.

По вопросам продаж и поддержки обращайтесь:

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