Data Sheet

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Agilent BioTek Synergy HTX Multimode Reader

Product description

With UV-Vis absorbance and filter-based fluorescence and luminescence, the Agilent BioTek Synergy HTX multimode reader combines versatility and performance for many key end point and kinetic applications. The compact system has a unique dual-optics design: a xenon flash lamp and monochromator enable filter-free, 200 to 999 nm wavelength selection for absorbance measurements, and a tungsten halogen lamp plus interference filters provide excellent sensitivity for fluorescence detection.

Synergy HTX also features the Agilent BioTek unique 4-Zone incubation to 50 ºC, dual reagent injectors, plus linear and orbital shaking to meet a wide variety of assay requirements in 6- to 384-well microplates. Synergy HTX is controlled by the easy-to-use, yet powerful Agilent BioTek Gen5 microplate reader and imager software for data collection, analysis, exporting and reporting. For increased workflow automation and throughput, the Agilent BioTek BioStack microplate stacker can be easily connected to Synergy HTX to automatically process up to 50 microplates at a time. For convenience, versatility and affordability, Synergy HTX is the ideal multimode microplate reader.

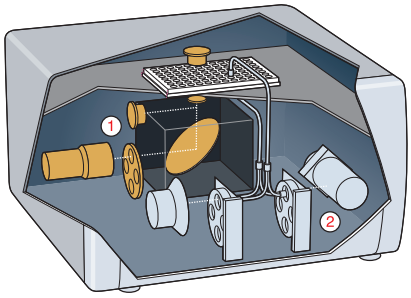

Figure 1. The Agilent BioTek Synergy HTX multimode reader offers monochromator-based UV-Vis absorbance (1) and filter-based fluorescence (2).

Figure 2. Agilent BioTek Take3 and Take3 Trio microvolume plates.

Features

- Monochromator-based UV-Vis absorbance and filter-based fluorescence detection for flexibility and performance
- 2 µL low volume nucleic acid quantification with Take3 and Take3 Trio plates
- Cell friendly orbital shaking and advanced incubator design to 50 ºC with Condensation Control to minimize plate lid condensation
- Dual reagent injectors for inject/read applications, such as enzyme kinetics and Dual-Luciferase Reporter assays
- Alpha assay capable
- Modular and upgradable
- Powerful Gen5 microplate reader and imager software for reader control and all data reduction needs
- Compatible with the BioStack microplate stacker and 3rd party automation

Typical applications

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

Configurations

- S1L: Synergy HTX with luminescence
- S1A: Synergy HTX with UV-Vis absorbance
- S1LA: Synergy HTX with UV-Vis absorbance and luminescence
- S1LF: Synergy HTX with luminescence and top/bottom fluorescence
- S1LFA: Synergy HTX with luminescence, top/bottom fluorescence and UV-Vis absorbance
- S1LFTA: Synergy HTX with luminescence, top/bottom fluorescence, time-resolved fluorescence and UV-Vis absorbance

Optional accessories

- Dual reagent injector module
- Gen5 Secure software (for 21 CFR Part 11 Compliance)
- Fluorescence test plate
- Absorbance test plate
- Luminescence test plate
- Product qualification package
- Take3/Take3 Trio

Technical details

General	
Detection Modes	Fluorescence, time-resolved fluorescence (secondary mode), luminescence, UV-Visible absorbance, Alpha
Read Methods	End point, kinetic, spectral scanning, well-area scanning
Microplate Types	6- to 384-well plates
Other Labware Supported	PCR plates, Petri and cell culture dishes, Take3 microvolume plates
Temperature Control	4-Zone incubation to 50 °C; ± 0.2 °C at 37 °C
Shaking	Linear, orbital
Software	Gen5 microplate reader and imager software
Automation	Compatible with Agilent BioTek BioStack microplate stacker and 3rd party automation

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Absorbance	
Light Source	Xenon flash lamp
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 Linearity	< 1% from 0 to 3.0 OD
OD Repeatability	< 0.5% at 2.0 OD
Fluorescence intensity	
Sensitivity	Top and bottom: Fluorescein 5 pM (1 fmol/well, 96-well plate)
Light Source	Tungsten halogen Xenon flash (option)
Wavelength Selection	Filters
Wavelength Range	300 – 700 nm (200 – 850 nm option)
Dynamic Range	> 6 decades
Detector	PMT
Luminescence	
Sensitivity	10 amol ATP (flash) – Lum. and Abs./Lum. configurations 30 amol ATP (flash) – Multimode configurations
Wavelength Range	300 – 700 nm
Dynamic Range	> 6 decades
Detection System	Low noise PMT
Time-resolved fluorescence	
Light Source	Xenon flash
Wavelength Selection	Monochromator
Alpha detection	
Light Source	Tungsten halogen
Sensitivity	300 amol of biotinylated LCK-P peptide
Read speed	2 minutes (96-well plate)
Reagent injectors	
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
Weight	40 lbs (18 kg)
Dimensions	15” D x 16” W x 10” H (38 x 40.6 x 25.4 cm)
Connectivity	1 USB, 1 RS232 for external PC control

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