

Agilent BioTek Synergy LX Multimode Reader



Product description

The Agilent BioTek Synergy LX multimode reader economically automates many common microplate assays. The high quality optical design ensures excellent data in absorbance, fluorescence and luminescence detection modes. Absorbance optics include a xenon flash lamp and monochromator for continuous wavelength selection from the low UV through the visible range to 999 nm. Fluorescence and luminescence measurements are made with filter-based optics for optimal sensitivity and direct detection to prevent light loss resulting in outstanding accuracy.

The broad wavelength ranges enable many common assays, including nucleic acid and protein quantification, ELISA, BCA, Bradford and cell viability. Easily accessible assay-specific filter cubes make running different assays quick and effortless, while the touchscreen user interface simplifies programming. Immediate data display, plus output to a USB flash drive, printer or Agilent BioTek Gen5 microplate reader and imager software makes the Synergy LX a versatile assay workstation. An upgradable design allows a lab to buy what is needed today and add other detection modes in the future.

Features

- Affordable multimode plate reader
- Enables many common end point assays, including nucleic acid and protein quantification, ELISA, BCA and Bradford assay and cell viability assays.
- Microvolume nucleic acid and protein quantification capability with Take3 plates
- Continuous wavelength selection for UV-Vis measurements ranging from 200 nm to 999 nm in 1 nm increments
- High performance, high-blocking filters for fluorescence and luminescence
- Color touchscreen for quick programming and operation and immediate data display
- Output to USB flash drive, printer or Gen5 software



Figure 1. The Agilent BioTek Synergy LX multimode reader is compatible with Agilent BioTek Take3 microvolume plates.

Typical applications

- ELISA
- Fluorescence ELISA
- Nucleic acid quantification (A₂₆₀ and fluorescence-based)
- Nucleic acid purity assessment (A₂₆₀/A₂₈₀)
- Gene expression (luminescence and fluorescence)
- Cell viability assays (absorbance MTT, luminescence ATP, various fluorescence-based)
- Protein quantification

Configurations

- SLXA: Synergy LX with monochromator-based absorbance from 200 nm to 999 nm.
- SLXF: Synergy LX with filter-based top fluorescence and luminescence.
- SLXFA: Synergy LX with monochromator-based absorbance from 200 nm to 999 nm, filter-based top fluorescence and luminescence.
- SLXATS: Synergy LX with monochromator-absorbance from 200 nm to 999 nm and touchscreen interface.
- SLXFTS: Synergy LX with filter-based top fluorescence and luminescence, and touchscreen interface.
- SLXFATS: Synergy LX with monochromator-based absorbance from 200 nm to 999 nm, filter-based top fluorescence and luminescence and touchscreen interface.

Note: All Synergy LX configurations include linear, orbital and double-orbital shaking.

Optional accessories

- Take3 microvolume plates
- Gen5 Secure software (for 21 CFR Part 11 compliance)
- Fluorescence test plate
- Absorbance test plate
- Luminescence test plate
- Product qualification package
- Printer

Technical details

General	
Detection Modes	UV-Vis absorbance, fluorescence intensity, luminescence
Read Methods	End point (onboard software) End point, kinetic, area scanning, absorbance spectral scanning (under Gen5 control)
Microplate Types	UV-Vis absorbance: 6- to 384-well (onboard software) Fluorescence intensity and luminescence: 96- and 384-well (onboard software) All modes: 6- to 384-well (under Gen5 control)

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Other Labware	Take3 microvolume plates (onboard software) Take3 and Take3 Trio microvolume plates (under Gen5 control)
Shaking	Linear, orbital, double-orbital
Software	End point protocols (onboard software) Full data analysis and reporting (under Gen5 control)
Absorbance	
Light Source	Xenon flash lamp
Detector	Photodiode
Wavelength Selection	Monochromator
Wavelength Range	200 – 999 nm, in 1 nm increments
Monochromator	
Bandwidth	≤ 5 nm
Wavelength Accuracy	± 2 nm
Wavelength Precision	± 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)
Optical density	
Accuracy	< 1% at 2.0 OD < 3% at 2.5 OD
Linearity	< 1% from 0 to 2.5 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
Fluorescence intensity	
Light Source	Halogen
Detector	PMT
Wavelength Selection	Bandpass filters
Wavelength Range	320 to 700 nm (low noise PMT) 320 to 850 nm (red-shifted PMT)
Dynamic Range	> 6 decades
Sensitivity	Fluorescein 2 pM
Reading Speed (Kinetic)	96 wells: 24 seconds 384 wells: 76 seconds
Luminescence	
Dynamic Range	> 6 decades
Sensitivity	10 amol ATP
Physical characteristics	
Power	External 24 V DC power supply compatible with 100-240 volts AC. 50-60Hz. 60W maximum consumption.
Weight	≤ 27 lbs (12.3 kg)
Dimensions	15" D x 15" W x 15" H (38.1 x 38.1 x 38.1 cm) (with touchscreen) 15" D x 15" W x 12" H (38.1 x 38.1 x 30.5 cm)
Connectivity	1 USB 2.0 ports for computer control 2 USB 2.0 ports for printer connection and USB flash drive (touchscreen configurations only)