BL-B300 / B400 / B500

Multi-Mode Microplate Reader

Multi-Mode series multi-mode microplate reader is specially designed for medical, biological and pharmaceutical research and development institutions to meet the needs of various drug development and life science research. The high-quality detection performance ensures high-quality analysis based on molecular biology, biochemistry and cytology.

In addition to the most basic absorbance, fluorescence and luminescence detection functions, high-performance fluorescence polarization and time-resolved fluorescence detection can also be selected. The instrument is compatible with the client-side modular upgrade function, and users can upgrade and equip with microplates and automatic injectors according to their needs.

UV/Vis Absorbance (ABS)

Wavelength selection is done by using an advanced monochromator system. Any wavelength between 200 to 1000 nm can be selected. Almost satisfy all absorbance detection applications.

Fluorescence (FL)

Fluorescence detection adopts the filter-based optics detection, which is composed of xenon lamp, filter and PMT and can best fit the characteristics of fluorescent dyes.

Luminescence (LUM)

Multi-Mode series luminescence microplate readers show excellent sensitivity and wide dynamic range in both glow and flash based assays. The optimized light path minimizes signal crosstalk between holes and ensures the accuracy of experimental results.

Time-Resolved Fluorescence (TRF)

Time-resolved fluorescence is based on lanthanide elements as dyes. After the excitation light is turned off, the emitted light can still be continuously expressed and released, thereby eliminating the interference of excitation light and scattered light. Time-resolved fluorescence has high sensitivity, strong specificity, good stability, and short operation flow. It is suitable for ultra-micro analysis in biology and medicine, hormone detection, viral hepatitis marker detection, target cell marker detection, and drug screening.

Fluorescence Polarization (FP)

The optimized optical path design of BL- B500 combined with the performance of the fast switching polarizer can effectively reduce the detection deviation. This function is often used to detect the interaction between small molecules and macromolecules, such as the determination of drugs and hormones, tyrosine kinase detection, receptor / ligand research, protein / polypeptide interactions, DNA / protein interactions, etc.

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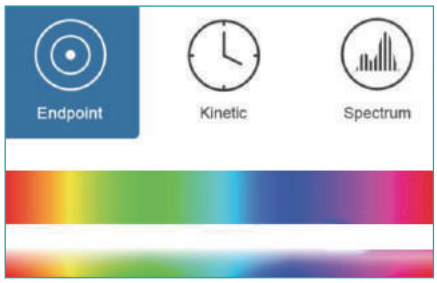
01

Rotating Touch Screen

The instrument is equipped with a 10-inch touch screen, whose angle can be converted through the LCD control button to facilitate the researcher's setting of the instrument.

02

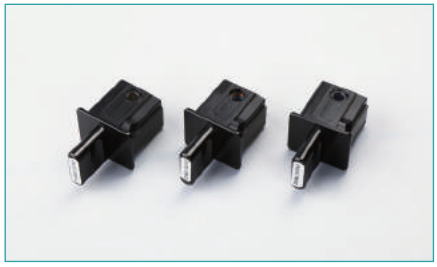
High-Quality Stable Performance



It has reference optical path to ensure more stable detection data. After the instrument is started, the light source, monochromator, detector, position, etc. will be calibrated automatically to ensure the stable and reliable operation of the instrument.

03

Modular Filter



The easy-to-disassemble modular filter will bring an economical and highly sensitive solution to your fluorescence detections. Only by scanning the QR codes on the block, the instrument can read the filter information to ensure accurate experimental parameters for convenient and quick operation.

04

MSS-2 Automatic Injector Block (Optional)

The automatic injector block can be purchased at the same time with the device and can also be upgraded later.

Liquid injection protection: The software has a liquid injection protection function to effectively prevent the risk of sample overflow.

05

Easy-to-Use and Flexible Software

1. **User Authority Classification**
   Intuitive selection of function modes and programs and results are stored independently
2. **Intuitive Interface Display**
   Programs and results are stored independently, making it easy to be found the required applications
3. **Powerful Data Analysis and Process**
   Provide multiple data processing methods including blank subtraction, standard curve creation, qualitative analysis, quality control, kinetics and spectral analysis
4. **FTP (File Transfer Protocol)**
   Upload the data directly to a computer with a FTP server, and users can view the data results at any time in the authorized folder

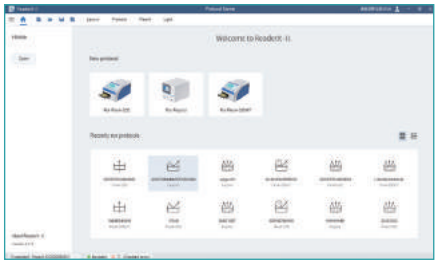
06

u-Nano Ultra-Micro Plate (Optional)

1. Quickly complete high-throughput quantification of nucleic acid and proteins without samples dilution
2. The independent software can quickly give the sample concentration and purity report
3. 1~16 samples can be detected at the same time, only 2~4 μL sample volume is needed

07

ReaderIt-II PC Analysis Software (Optional)



1. Can provide a more comprehensive and complex data analysis algorithm than the instrument APP software
2. Data export is convenient and fast. Detailed result reports can be created through built-in tools

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Technical Parameter

	Model	BL-B300	BL-B400	BL-B500
Absorbance	Light source	Xenon lamp		
	Detector	PD		
	Wavelength accuracy	2 nm		
	Wavelength repeatability (SD)	0.2 nm		
	Half width (FWHM)	<2.5 nm		
	Wavelength range	200-1000 nm, 1 nm step		
	Measure range	0 - 4 OD		
	Resolution	0.0001 OD		
	Accuracy @450 nm	96-precision mode: ± (1.0 %+0.003 Abs) @ (0.0-2.0 Abs] ±2.0 % @ (2.0-3.0 Abs]		
	Repeatability @450 nm	CV <1.0 % or SD <0.003 fast (0.0-3.0Abs] CV <0.5 % or SD <0.003 accurate (0.0-3.0Abs]		
	Stray light	0.1% @ 220 nm		
	Linear @450 nm	R^2 ≥0.999 @ [0.0 - 3.0 Abs]		
	Reading time	96-well plate: fast <15 s		
Luminescence	Detector	PMT		
	Detection limit	15 amol / well; 5 amol / well (photon PMT)		
	Linear dynamic range	6 logs		
	Crosstalk	≤0.005 %		
	Wavelength range	200-850 nm		
Fluorescence	Reading mode	Top reading		
	Excitation light source	Xenon lamp		
	Detector	PMT		
	Wavelength range	EX: 200-1000 nm; EM: 270-850 nm		
	Filter EX / EM	3 groups: EX470 / EM525, EX523 / EM564, EX624 / EM692 (other wavelengths can be replaced)		
	Detection limit	1 pM		
	Linear dynamic range	6 logs		
TRF	Wavelength range	--	EX: 200-1000 nm; EM: 270-850 nm	
	Detection limit	--	0.05 pM	
FP	Wavelength range	--	--	300 - 850 nm
	Detection limit	--	--	5 mP

Basic Parameter

Model	BL-B300 / B400 / B500
Plate	6-384 well
Accessories	Microplate, injector
Shaking mode	Linear, annular, double annular
Incubation temperature	RT. +4 °C ~ 45 °C
Temperature uniformity	±0.5 °C @ 37 °C
Software interface	Chinese / English
Screen size	10-inch
Operation method	Capacitive screen touch, mouse
Data capacity	10 GB
Compatibility	Support PC software, Win7 / Win10 64 bit
Network transmission	The test data report can be uploaded to the PC server through FTP
Instrument port	2 USB Type A ports, 1 USB Type B port, 1 Ethernet port, Rs232 bus interface (connected to the injector)
Power supply	AC 100-240 V, 50-60 Hz
Dimension (W×D×H)	420×550×386 mm
Weight	33 kg

Accessory Parameter

Microplate	Sample number	1-16
	Sample detection volume	2-4 μL
Automatic Injector	Quantity	1 / 2
	Dispensing volume	5-1000 μL, 1 μL increment
	Liquid injection speed	125-500 μL/s
	Accuracy	±1 μL @ 5-50 μL; ±2 % @ 51-1000 μL
	Waste liquid collection	50 mL
Software	Analysis software	ReaderIt-II software

Ordering Information

	Description
	BL-B300 microplate reader (multi-mode)
	BL-B400 microplate reader (multi-mode)
	BL-B500 microplate reader (multi-mode)
	ReaderIt-II PC analysis software
	u-Nano ultra-micro plate
	ABS optical performance validation board
	MSS-2 automatic injector