MIRE-A300 / A400 / A500

Multi-Mode Microplate Reader 200-1000 nm

Price - €

Download Catalogue

Mire-A300/A400/A500 is a high-quality microplate reader. Ideal for medical, pharmaceutical and biological research, Mire can be used for different photometric research, such as DNA/RNA, protein analysis and more. It offers free wavelength selection, by using an advanced 1 nm step monochromator system, allowing any wavelength between 200 and 1000 nm to be selected.

It includes xenon flash lamp as a light source, and can perform both kinetics and spectral analysis.

Suitable for 96-384 well plates, it comes with three shaking modes:
- Linear
- Annular
- Double annular

The incubation temperature is up to 45°C.

Apart from the basic absorbance, fluorescence and luminescence detection functions, Mire also offers two additional features: high-performance fluorescence polarization (FP) and time-resolved fluorescence detection (TRF).

10-inch touch screen and easy-to-use software make the operation easy. It can also be operated by the ReaderIt-II software.

In addition to 10 GB data capacity, programs and results are stored independently, while data can also be directly uploaded to a computer with a FTP (File Transfer Protocol) server, allowing users to easily access and view the data results in the authorized folder at any time.

QR code scanner included, ensuring precise parameters for the quick operation.

Temperature range: RT +4 to 45°C

Intuitive interface display

Intuitive user-friendly internal software on a 10-inch touch screen for quick measurements

Xenon lamp as a light source

ReaderIt-II Software

Provides more comprehensive and complex

Linear shaking function for microplate

Functions:

- UV/Vis Absorbance

Wavelength selection is done by using an advanced monochromator system. Any wavelength between 200 and 1000 nm can be selected. Using the spectral scanning feature, the whole spectrum of a sample can be scanned in 1 nm increments to allow identification of the optimal measurement wavelength for a new assay.

- Fluorescence

The independent removable filter modules allows users to replace the filter easily. The filter-based fluorescence optics detection ensures high sensitivity, greater light transmission, precise control over transmitted peak shape, excellent blockage of an undesired wavelengths. This is ideal for excitation and emission applications. The filters are also the technically preferred and most cost efficient technology for non-absorbance based assays.

- Luminescence

Mire series luminescence microplate readers show excellent sensitivity and wide dynamic range in both glow and flash based assays. The PMT enhances the maximum sensitivity of weak luminescence signals, prevents oversaturation of high signals, effectively improves the detection range of luminescence. The optimized light path minimizes signal crosstalk between holes and ensures accuracy of experimental results. The precise dual-channel injector ensures assay performance even when assaying high-density 384-well plates.

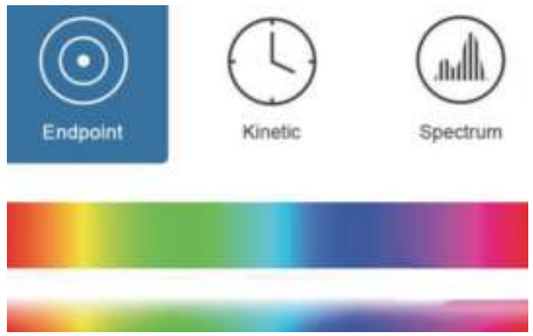
- Time-Resolved Fluorescence (TRF)

Time-resolved fluorescence is based on lanthanide elements as dyes. When excited, the emission time is much longer than that of ordinary fluorescein. 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.

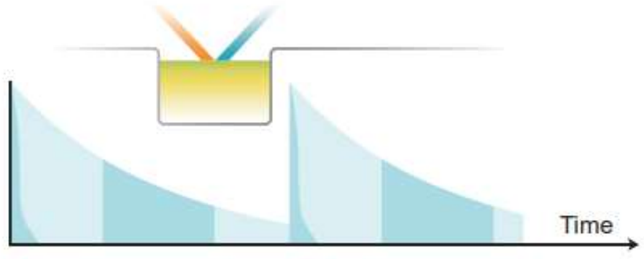
- Fluorescence Polarization (FP)

The optimized optical path desing of Mire-A500 combined with the performance of the fast switching polarizer can effectively reduce the detection deviation. The 10-inch lower computer touch screen can improve the flexibility of experimental parameter setting. 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.



Spectral scanning, endpoint and kinetic detection available

Fluorescence filters



Time-resolved fluorescence

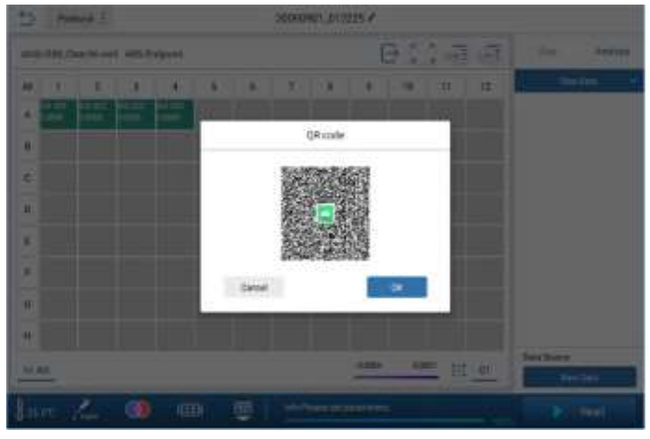
Model	MIRE-A300	MIRE-A400	MIRE-A500
Absorbance-monochromator	✓	✓	✓
Fluorescence-filter	✓	✓	✓
Time-resolved fluorescence	✗	✓	✓
Fluorescence polarization-filter	✗	✗	✓
Luminescence	✓	✓	✓
U-Nano plate	✓	✓	✓
Injector (optional)	✓	✓	✓

Mire is suitable for upgrades, allowing users to equip it with microplates and automatic injectors according to their needs. The independent software can quickly give the sample concentration and purity report. Up to 16 samples can be detected simultaneously.

The software also has a communication with a shared library, which can store the program, results and standard curves. This enables easy sharing with others.

In addition, Mire has a code scanning function, which can not only identify the filters information, but also create a QR code for the experimental program or standard curve. Researchers can quickly import the experimental program into the instrument through the QR code.

Mire 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.



QR code scanner allows quick operation

The automatic injector block

		Mire-A300	Mire-A400	Mire-A500
Absorbance	Light source	Xenon lamp		
	Detector	PD		
	Wavelength range	200-1000 nm with 1 nm step		
	Wavelength accuracy	2 nm		
	Wavelength repeatability	0.2 nm		
	Stray light	0.1% at 220 nm		
	Measure range	0-4 OD		
	Resolution	0.0001 OD		
	Accuracy at 450 nm	96-precision mode: ± (1% + 0.003 Abs) at (0.0-2.0 Abs) ±2% [2-3 Abs]		
	Repeatability at 450 nm	CV < 1% or SD < 0.003 fast [0-3 Abs] CV < 0.5% or SD < 0.003% accurate [0-3 Abs]		
	Linearity at 450 nm	R2 ≥ 0.999 at [0-3 Abs]		
	Reading time	96-well plate: fast < 15 s		
	Half width	<2.5 nm		
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 / EM 564, 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 pM

	MIRE-A300 / A400 / A500	
Basic Parameters	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 at 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	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 (WxDxH)	420x550x386 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 at 5-50 µl, ±2 % at 51-1000 µl
	Waste liquid collection	50 mL
Software	Analysis software	ReaderIt-II software

Ordering Information	
Code	Description
AS-19050-00	Mire-A300 microplate reader (multi-mode)
AS-19060-00	Mire-A400 microplate reader (multi-mode)
AS-19070-00	Mire-A500 microplate reader (multi-mode)
AS-19011-01	ReaderIt-II PC analysis software
AS-19011-02	u-Nano ultra-micro plate
AS-19011-03	ABS optical performance validation board
AS-19011-04	MSS-2 automatic injector

Please note if this Multi-Mode Microplate Reader does not match the specific needs of your application, or some options are not listed for sale, please feel free to contact us. Our manufacturing engineers will come up with technical solutions to meet your needs. We reserve the right to change technical specifications at any time.

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