

## ELISA plate reader with shaking and incubator function

ELISA plate reader is a high-precision analytical instrument specially designed for enzyme-linked immunosorbent assay (ELISA) experiments, which is widely used in biomedical research, clinical diagnosis, environmental monitoring and other fields.

ELISA plate reader is able to accurately measure the light signals generated by different chemical reactions, which helps researchers to quantitatively and qualitatively analyze antibodies, antigens and other biomolecules.

### Main Features of ELISA Plate Reader

1. wide wavelength range: ELISA plate reader adopts grating monochromator system, which can accurately measure the wavelength range from 200nm to 1000nm and supports 1nm step scanning, which makes the experiment cover more kinds of reaction systems.
2. dual-beam optical system: the instrument is equipped with a dual-beam optical system to ensure high stability and accuracy of data. Through the reference optical channel, to reduce the interference of background noise, to obtain more accurate experimental results.



3. long-life xenon lamp light source: the instrument uses a xenon lamp as the light source, with a service life of up to one billion times, to ensure the stability of the instrument in long-term operation and reduce maintenance costs.
4. a variety of experimental modes: support for spectral scanning, endpoint method, kinetic detection and standard curve establishment and other experimental modes, to meet the needs of different experiments.
5. Intelligent Incubation Function: Built-in temperature control function supports incubation range from room temperature +4°C to 45°C, which is suitable for different types of sample cultivation, and is able to oscillate microtiter plate to enhance the flexibility of experiments.
6. independent operation and PC control: the instrument can be operated independently through the built-in software, but also supports the Windows system software and PC computer connection control, providing a variety of operating methods, convenient for different users.
7. user rights management: support for administrator account management, you can set different levels of user rights to ensure the security and confidentiality of experimental data.
8. a variety of data export formats: the instrument supports Excel, TXT, CSV, PDF and other data export formats, which is convenient for users to store data and subsequent analysis.
9. standard curve library: ELISA plate reader has a standard curve library, the standard curve established in the first experiment can be stored in the standard curve library, so that the next experiment can be called directly, without the need to establish a standard curve each time, more convenient and quick.

10.FTP: The data of the enzyme marker can be uploaded directly to the computer with FTP server, and the customer can check the data results in the specified folder at any time.

### **Advantages**

1. high precision and stability: the combination of dual-beam system and long-life light source makes the instrument maintain a high degree of stability and accuracy when performing various experiments, suitable for the detection of low concentration samples.
2. powerful data processing capabilities: provide a variety of data processing methods including blank subtraction, standard curve production, qualitative classification, quality control, kinetic analysis, etc., according to the experimental needs of flexible data processing, to help users get reliable analysis results.
3. Intelligent operation and management: The instrument supports multi-level user rights settings and remote data storage to ensure data security and efficient management of the experimental process.
4. easy and flexible operation: through the dual operation mode of PC control and built-in software control, it provides flexible and convenient experience for different users.

## Working Principle

ELISA plate reader is based on enzyme-linked immunosorbent assay (ELISA). Antibodies or antigens in the sample form enzyme-labeled complexes by binding to the antibodies or antigens on the solid-phase carrier. Under the catalytic effect of enzyme, the substrate reaction generates color or luminescence signal. ELISA plate reader calculates the concentration of target molecule by measuring the light signal after the reaction, which is usually absorbance, fluorescence or chemiluminescence, and combining the standard curve with the experimental data. ELISA plate reader is free to select different wavelengths of light for detection to optimize the detection effect of the reaction system.

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<b>Model</b>	<b>MR20</b>
Display	10-inch capacitive touchscreen
Light Source	halogen lamp
Wavelength Range	200nm to 1000nm
Wavelength Accuracy	±2nm
Wavelength Repeatability	0.2nm
Optical System	grating monochromator, 1nm increment

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<b>Model</b>	<b>MR20</b>
Reading range	0 to 4.0 OD
Bandwidth	less than 2.5nm
Detection System	2 silicon photodiodes, one for measurement, one for reference
Absorbance accuracy at 450nm	$\geq 0.999$ , [0.0-3.0Abs]
Absorbance repeatability at 450nm	$\pm(1.0\%+0.003\text{Abs})$ , (0 to 2.0 Abs]. $\pm 2.0\%$ , (2.0 to 2.5Abs]
Measurement Speed	96-well plate: fast mode <8 seconds, precise mode <28 seconds, endpoint method
Oscillation	Linear, 3 adjustable speeds
Temperature Range	ambient+4°C to 45°C
Temperature accuracy	$\pm 0.5^\circ\text{C}$ at 37°C
Temperature uniformity	$\pm 0.5^\circ\text{C}$ at 37°C

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<b>Model</b>	<b>MR20</b>
Analysis software	software used on Windows computers
Operation Display	Touchscreen input, Android system, 10-inch LCD displaying full plate information, supports external keyboard and mouse
Memory	16GB storage, can store more than 20000 data files
Interfaces	1 type-B USB port, 2 type-A USB ports, 1 network port
Power Supply	24Vdc, 6.67A
External Dimensions	300x500x260mm
Weight	15.5kg