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Feyond-A300

A New Generation of Flexible
Multifunctional Enzyme-Linked
Immunoassay Analyzer

Feyond-A300
Microplate Reader

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Instrument Introduction

Feyond-A300 multifunctional enzyme-linked immunoassay analyzer is specially designed for medical, biological and drug research, which can meet the requirements of various drug development and life science research. The high-quality detection performance guarantees the high quality analysis of molecular biology, biochemistry and cytology.
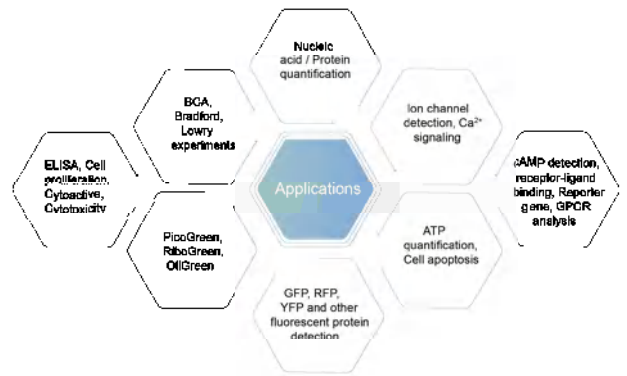
In addition to the full-wavelength absorbance, fluorescence, and chemiluminescence detection functions, it is also compatible with the clinical modular upgrade function. Users can upgrade to equip the low volume drop plate and flash detection with an automatic sampler as needed.

The absorption light of Feyond-A300 is based on a grating monochromator, which can realize continuous spectrum detection of 200-1000nm without a filter to meet almost all absorption light detection applications. Fluorescence detection adopts a detection light path based on a filter. The fluorescent light path composed of a xenon lamp, filters and PMT can fit the characteristics of fluorescent dyes to the greatest extent, ensuring excellent detection performance and high-quality detection results. Chemiluminescence detection also uses PMT as the detector, and the sensitivity can reach a dynamic range of more than 6 orders of magnitude. The detachable modular fluorescence detection filter can identify the filter information only by scanning the code. The modular design provides the convenience of filter replacement, which is more convenient for experiments and shortens the operation time.

The instrument is equipped with a 10-inch fully automatic rotatable touch screen as standard. According to the researcher's operating habits of the instrument, the screen angle can be converted through the LCD control button, which is convenient for the researcher to set the instrument. The instrument does not need to be equipped with a computer, and the layout, operating parameters, and algorithm settings can be completed by a single machine. The built-in software of the instrument includes multiple algorithm analysis functions of standard curve, qualitative and quantitative, basic calculation, kinetics and spectroscopy, which makes the processing and research of experimental data more convenient.

Feyond-A300 adopts PID temperature control technology. When the test plate is covered or closed, the edge effect can be reduced by the difference temperature between the top and bottom of the plate, so as to ensure the data stability of the sample in the process of dynamic analysis.

In addition, Feyond-A300 has a code scanning function, which can not only identify the plate 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.

Feyond-A300

A New Generation of Flexible

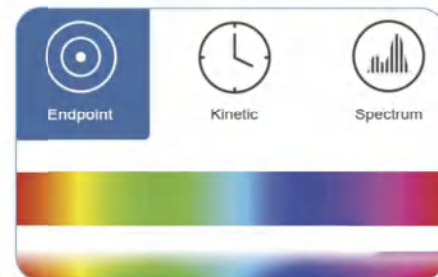# Multifunctional Enzyme-Linked Immunoassay Analyzer

UV / Vis Absorbance

The monochromator optical path detection system of Feyond-A300 can ensure the excellent wavelength accuracy of the instrument, and scan the full spectrum in 1nm steps within 200-1000nm. The instrument has a reference optical path to ensure more stable detection data. After the instrument is started, the light source, grating, detector, position, etc. are automatically calibrated to ensure stable and reliable operation.

Endpoint	Kinetic	Spectrum

Long life xenon lamp, xenon lamp service life with constant flash is 10^9 (10 years)

Fast detection speed, 96-well whole plate detection can be completed within 15s
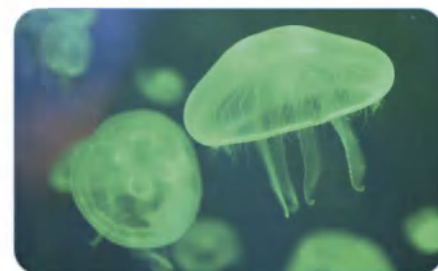
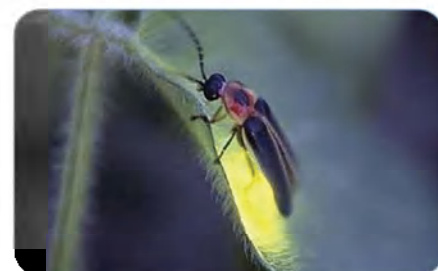Can be used for spectral scanning, endpoint and kinetic detection

Fluorescence

Feyond-A300 uses dichroscope and filters to form the light path, which can realize sensitive and flexible fluorescence measurement from the top of the microplate. The independent removable filter module can make it more convenient for researchers to replace the filter. Filter-based fluorescence detection ensures strong excitation and acquisition of more signals, thus having higher detection sensitivity.

Automatic gain: automatic gain and correction function, automatically select the best PMT voltage according to the signal strength of the sample, and obtain a reliable concentration range sample detection result without manual adjustment by the customer, which greatly simplifies the experimental setup process.

Chemiluminescence

Feyond-A300 chemiluminescence module can realize 96-well and 384-well plate glow and flash detection, and shows excellent sensitivity and wide dynamic range in luminescence measurement. The optimized precision dual-channel sampler ensures the detection performance of the 384-well plate. The dedicated photomultiplier tube (PMT) enhances the maximum sensitivity of weak luminescence signals, prevents oversaturation of high signals, effectively improves the detection range of chemiluminescence and minimizes signal crosstalk between wells.

Simple and Flexible Software

Feyond-A300 provides powerful independent instrument control software. Through the 10-inch high-resolution touch screen, you can perform board layout, parameter setting and data analysis operations. The intuitive interface, simple operation, and abundant functions will significantly improve the efficiency of your experiment.

User Authority Rating

1. User permissions are divided into four levels, with clear permissions to avoid the occurrence of misuse by researchers;

2. Admin administrator can manage the accounts of different sub-users;

3. Users have independent accounts and passwords to ensure the safety and confidentiality of experimental results.

Intuitive Interface Display

1. Intuitive selection of function modes, easy parameter setting;

2. The layout color is distinguished clearly, convenient to check the position of the sample;

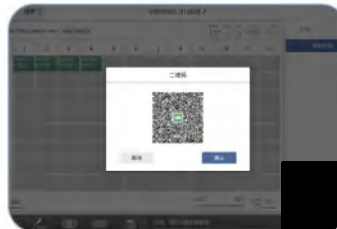3. Programs and results are stored independently, making it easy to find the required applications.

Powerful Data Analysis and Processing

1. Provide multiple data processing methods including blank subtraction, standard curve creation, qualitative analysis, quality control, kinetics and spectral analysis to help you obtain the analysis results you want;

2. Algorithm customization: According to your experimental needs, you can customize the required algorithm, tailor-made for convenient experiment.
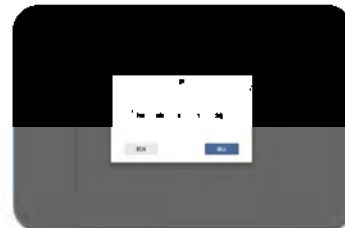
Liberalized User Communication

1. The software comes with a shared library, which can store the program, results and standard curves for sharing them with others;

2. The program and standard curve can be created in real time to a QR code, and the required content can be imported only by scanning the code with the instrument.

FTP (File Transfer Protocol)

1. Upload instrument data directly to a computer with an FTP server, and customers can view the data results at any time in the authorized folder.

Optional Accessories

u-Nano Ultra-Micro Plate

1. Quickly complete high-throughput quantification of nucleic acid and proteins without samples dilution;
2. Independent instrument software can quickly report sample concentration and purity;
3. 1 ~ 16 samples can be detected at the same time, only 2 ~ 4µL sample volume is needed;
4. No need to calibrate, reliable performance.

Automatic Sampler

Equipped with dual automatic samplers can enhance the flexibility of the experiment and meet the requirements of rapid sample addition reaction detection. It plays an indispensable role in the analysis of luminescence flash, Ca^{2+} ion flow, etc. Feyond-300A is equipped with a standard sampler, which can meet the precise sample addition operation of 384-well plates and realize the possibility of rapid detection of high-throughput plates.

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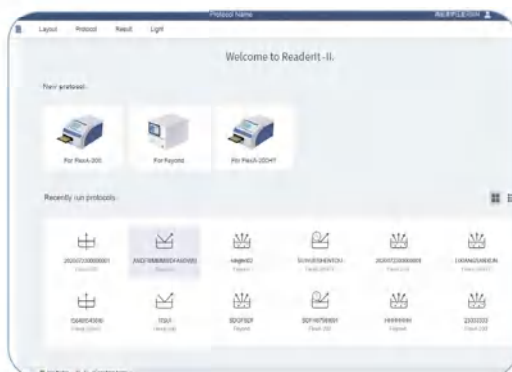

Modular Filter

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

ReaderIt-II PC Analysis Software

The ReaderIt-II software with graphical operation interface design, data export is convenient and fast, and detailed result reports can be created through built-in tools. ReaderIt-II software can also provide a more comprehensive and complex data analysis algorithm than the instrument software, which makes it more convenient for customers to process experimental results.

Technical Parameter

Basic Information	
Product name	Feyond-A300 enzyme-linked immunoassay analyzer
Function	Absorbance, fluorescence, chemiluminescence (glow, flash)
Support plate rack	96&384 wells (6 / 12 / 24 / 48 optional)

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
Measuring range	0-4 OD
Resolution	0.0001 OD
Accuracy	±(1.0%+0.003A) @ (0.0-2.0) ±2.0% @ (2.0-3.0)
Repeatability	CV＜1.0% Fast (0.0-3.0) CV＜0.5% Accurate (0.0-3.0)
Stray light	0.1% @ 220 nm
Linear	$R^2>0.999$ @ [0.0-3.0]
Reading time	96-well plate: fast<15s (A1 to A1)

Fluorescence	
Reading mode	Top reading
Excitation light source	Xenon lamp
Detector	PMT
Wavelength range	EX: 200-1000 nm; EM: 270-840 nm
Filter EX/EM	3 groups
Detection limit	≤1 pM
Linear dynamic range	≥6 logs

Chemiluminescence	
Detector	PMT
Detection limit	100 amol / hole

Linear dynamic range	≥6 logs
Crosstalk	≤0.005%

Shaking & Incubation	
Shaking mode	Linear, circular, double circular
Incubation temperature	RT +5°C to 45°C
Temperature uniformity	±0.5°C @ 37°C

Software	
Software interface	Chinese / English
Screen size	10-inch LCD display (resolution: 1920 x 1200)
Operation method	Touch capacitive screen; use mouse
Data capacity	10 GB
Compatibility	Support PC software, win7 to win10 64 bit
Network transmission	Test data report can be uploaded to PC server via FTP

Others	
Instrument port	2 USB A type ports 1 USB B type port 1 Ethernet port CAN bus interface (injector connection)
Size (W x D x H) mm	420 x 550 x 386
Power supply	AC 100 to 240V, 50 to 60Hz
Power	160W 24V 6.67A (can be adjusted according to hardware requirements)
Weight	33 kg

Ultra-Micro Plate (Optional)	
Number of samples	1-16
Sample detection volume	2-4 µL

Automatic Sampler (Optional)	
Quantity	1, 2
Dispensing volume	5-1000 µL, 1 µL increment
Liquid injection speed	20-500 µL / s
Accuracy	±1 µL @ 5-50 µL ±2% @ 51-1000 µL
Waste liquid collection	50 mL

Order Information

No.	Order No.	Product Description	Remark
1	AS-19050-00	Feyond A300 enzyme-linked immunoassay analyzer (multifunctional)	/
2	AS-19011-01	ReaderIt-II PC analysis software	/
3	AS-19011-02	u-Nano ultra-micro plate	/
4	AS-19011-03	ABS optical performance calibration plate	/