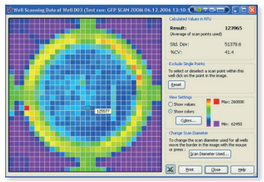
Software

Powerful microplate Reader Control and MARS Data Analysis Software

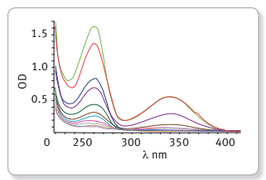
BMG LABTECH's software package includes Reader Control and MARS Data Analysis interfaces. This multi-user software package is included with every reader.

The intuitive Control Software is fully compliant with FDA regulation 21 CFR Part 11 and allows users to define instrument parameters and test protocols.

The MARS Data Analysis Software allows the user to display data, signal plots, spectra, and standard curves in 2D or 3D graphs. Data is processed using powerful predefined templates or a broad range of data calculation features. The software is also capable of creating standard curves and respective values (i.e. EC_{50}, IC_{50} and r^2) based on the following curve fitting algorithms:

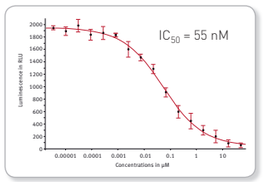


Well scanning



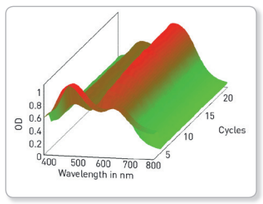
NADH spectrum

- Linear regression
- 4- and 5-parameter
- Exponential
- Point-to-point
- Segmental regression
- Michaelis-Menten K_m
- Cubic spline
- 2nd and 3rd polynomial.

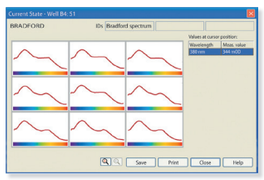


Dose-response curve

The MARS wizard creates a step-by-step calculation of a standard curve, and important parameters such as S/N, Delta F % and Z' are easily obtained. Fast analysis of enzyme kinetic data using standard fit equations completes the MARS software package.



3D enzyme kinetic chart



Current state window

Applications

BMG LABTECH continuously works with all the leading reagent companies to optimize instrument settings for their existing assays and their newest chemistries.

BMG LABTECH's comprehensive searchable applications center reflects more than 25 years of expertise and innovations in microplate reading technology. Over 4000 references exemplify the flexibility and versatility of our readers, as well as their use in the chemical and biological sciences.

Transcreener®
FRET assays
Binding studies
DNA/RNA quantifications
AlphaPlex™ technology
HTRF®
DLR™
AlphaTechnology
Protease activity
Kinase activity
SNP Genotyping
LanthaScreen®
ORAC
HTS
Apoptosis
Enzyme activity
Immunoprecipitation
Dual luciferase assays
Protein quantifications
BRET assays
Enzyme kinetics
ROS detection
Cell Viability
PCR product quantifications
NADH / NADPH assays
DELFIA®
LANCE®
Solubility tests
ATP and ADP detection
ELISA
Gene expression
Reporter gene assays

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Made in Germany

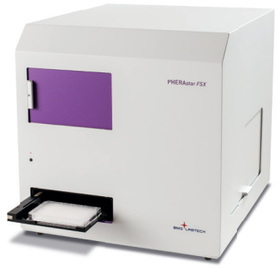
Instrumentation Guide

BMG LABTECH
The Microplate Reader Company

PHERAstar® *FSX*

The New Gold Standard for HTS

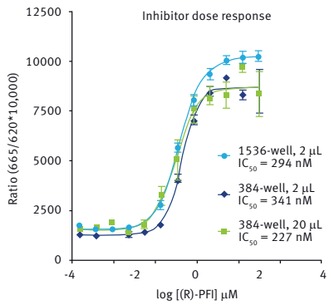
Fluorescence Intensity
Fluorescence Polarization
Time-Resolved Fluorescence
TR-FRET/HTRF®
UV/Vis absorbance spectra
Luminescence
AlphaTechnology



3456 wells

German engineering at its best.
The PHERAstar® *FSX* is the new Gold Standard microplate reader for High-Throughput Screening, specifically designed for highest sensitivity and speed. Its new and unique features make it superior to any other microplate reader currently on the market.

- Most sensitive reader in Fluorescence Intensity and Polarization
- Fastest read times with Simultaneous Dual Emission detection (incl. AlphaTechnology)
- 9 decades luminescence dynamic range
- Full absorbance spectra from 220-1000 nm in less than 1 s/well
- Top and bottom reading with focus adjustment (0.1 mm z-height)
- All microplate formats up to 3456-well
- New generation TRF laser for highest performance
- AlphaScreen®/ AlphaLISA® laser
- Up to two onboard reagent injectors
- Three integrated barcode readers



(R)-PFI 2 hydrochloride inhibitor titration with SET7/9 enzyme

Never worry about which filter or dichroic mirror is installed!
Assay-specific Optic Modules are configured with all the necessary optical components including excitation and emission filters, dichroic mirrors, beam splitters, and polarization filters. The PHERAstar *FSX* can accommodate up to six Optic Modules. All Optic Modules are easily exchangeable, barcoded, and are automatically selected by the PHERAstar *FSX* for the appropriate assay.

CLARIOstar®

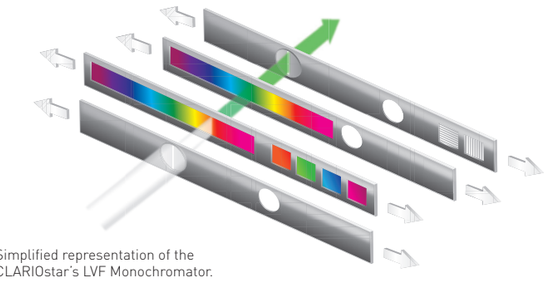
The LVF Monochromator™ reader

Fluorescence Intensity
Fluorescence Polarization
Time-Resolved Fluorescence
TR-FRET/HTRF®
UV/Vis absorbance spectra
Luminescence
AlphaTechnology

1536 wells

The most sensitive monochormator-based reader
- **L**inear **V**ariable **F**ilters LVF Monochromators™
- Continuously adjustable bandwidths (8-100 nm)
- Increased sensitivity over conventional monochromators
- Fluorescence and luminescence spectral scanning
- Use monochromators, filters, or a combination of both
- Integrated fluorophore library for easy wavelength selection

CLARIOstar® additional features
- Full absorbance spectra from 220-1000 nm in less than 1 s/well
- All microplate formats up to 1536-well
- Top and bottom reading with focus adjustment (0.1 mm z-height)
- Shaking and incubation up to 45°C or 65°C
- Up to two onboard reagent injectors
- AlphaScreen®/AlphaLISA® laser



Simplified representation of the CLARIOstar's LVF Monochromator.

LVF Monochromator™ and filter selector technology
Highest light transmission and no stray light give the CLARIOstar's LVF Monochromator system filter-like performance and sensitivity.

The LVF Monochromator slides can also hold individual filters, polarizers, and dichroic mirrors for specific applications. This unique in-line optical path allows fixed filters to be combined with the LVF Monochromators in one measurement, providing users with the highest level of versatility, flexibility, and sensitivity.

FLUOstar® Omega

Filter based multi-mode reader

Fluorescence Intensity
Time-Resolved Fluorescence
TR-FRET/HTRF®
UV/Vis absorbance spectra
Luminescence
AlphaTechnology

384 wells

Upgradeable multi-mode microplate reader
- Spectrometer-based absorbance with 220-1000 nm spectral scans in <1 sec/well, or filter-based absorbance with range 240-740 nm
- Top and bottom reading
- All microplate formats up to 384-well
- Plate shaking, incubation up to 45°C or 65°C
- Up to two onboard reagent injectors

POLARstar® Omega

- Includes all FLUOstar Omega features
- Speed and performance increase with Simultaneous Dual Emission detection in FRET, BRET, and FP

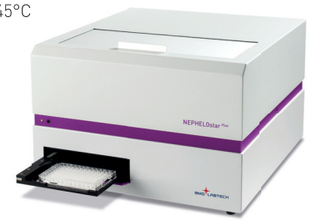
LUMIstar® Omega

- Dedicated luminometer for flash and glow assays
- Fully upgradeable to FLUOstar or POLARstar Omega
- Simultaneous Dual Emission for BRET

NEPHELOstar® *Plus*

Unique laser-based nephelometer

Light-scattering and turbidity measurements
- Uses light-scattering for detection of insoluble particles
- All microplate formats up to 384-well
- Up to two onboard reagent injectors
- Shaking and incubation up to 45°C
- Stacker and robot compatible



384 wells

SPECTROstar® *Nano*

Ultra-fast UV/Vis spectrometer

UV/Vis absorbance spectra
Microplate-based absorbance
Cuvette-based absorbance

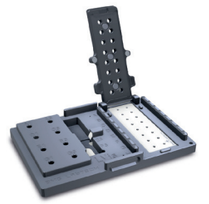
1536 wells

Ultra-fast DNA/RNA, protein, and ELISA measurements
- Full absorbance spectrum 220-1000 nm in <1 s/well
- All microplate formats up to 1536-well
- Well scanning, kinetic and endpoint measurements
- Integrated cuvette port, plate shaking and incubation up to 45°C
- Gas vent for atmospheric sensitive samples

Accessories

Atmospheric Control Unit (ACU)

Optimal environment for any live cell-based assay:
- Active regulation of O_2 and CO_2
- Available for CLARIOstar



LVis Plate

Microplate for low-volume measurements
- Sixteen microdrop well sites for 2 µL samples
- Horizontal standard cuvette position
- NIST-traceable optical filters for precision and accuracy tests
- Compatible with all spectrometer-based readers

Stacker

Mid-throughput microplate handling
- Rapid loading, unloading, restacking, for up to 50 microplates
- Continuous load feature and barcode reader
- Accommodates all microplate formats
- Compatible with CLARIOstar, PHERAstar *FSX*, Omega series, and NEPHELOstar *Plus*