



MicroLumatPlus LB96V Microplate Luminometer



Discover a new dimension in the luminescence analysis of microwell plates. EG&G Berthold, the world leader in luminometer design, has developed an innovative system which sets new standards in 96-well and 384-well microplate luminometry. The MicroLumatPlus LB96V luminometer combines unsurpassed sensitivity and precision with highest reliability and flexibility:

- highest performance
- highest sensitivity
- lowest background
- low crosstalk
- flexible design
- variable volume injectors
- powerful Winglow software package

Variable Volume Injectors EG&G Berthold has developed a new type of reagent injector for the highest reliability and simplicity in reagent handling. Based on the so called "jet injection" principle, these injectors combine high injection speed and precision of injected volume with reliable mixing of reagents. The instrument can be equipped with up to three injectors for starting reactions or quenching light emission. The injected reagent volume is programmable in a range from 25 - 300 μ l.

Light detection The Ultra fast photon counting system of MicroLumatPlus is designed to achieve highest sensitivity and to guarantee low background. It provides an impressive dynamic range with linearity extending over 6 decades without the inconvenience to adjust sensitivity gains. With extremely low crosstalk the MicroLumatPlus is well suited for all applications in luminescence measurement. For overload detection, the optical channel is shutter protected eliminating the risk of damage to the photomultiplier tube.

Temperature control The instrument can be supplied with a high performance multizone incubation module for rapid temperature equilibration.

Stand alone operation or PC controlled measurements You have the choice. The MicroLumatPlus can be used as a stand alone instrument for measuring samples and performing data reduction. Data can be transferred to any spreadsheet program via the WinTerm terminal program. Furthermore, the powerful user friendly WinGlow software offers the possibility to control the instrument with a Windows based system.

Robot access The MicroLumatPlus is the best solution in high throughput screening when high reliability, accuracy and versatility is needed.

Stand-alone operation with built in software Equipped with a microprocessor, an alpha-numeric keyboard and LCD display, the MicroLumat allows measurement of almost all bio-and chemiluminescent applications. Three measurement modes are available: **Integrate** for counting all photons over a defined

measuring time. In **Kinetics** mode light emission of each sample is plotted as a 20 point kinetic curve. Long-term kinetics of up to 48 hours are measured in the **Repeated** mode by repeatedly scanning the microplate within predefined time intervals.

The WinGlow software package Measurement in Win-Integrate and Win-Kinetics mode is subdivided into two measuring intervals one before and one after injection. The Win-Repeated mode offers unsurpassed flexibility: Up to three injection cycles, each with a freely defined pattern of injections can be programmed. These injection cycles are either performed at programmed times during the repeated scanning of the microplate or can be manually activated. The WinGlow software package contains an Excel macro which adds completely new menus and functions to the standard Excel program and allows easy and powerful data evaluation. **Data export to standard software packages** When operating the MicroLumatPlus as a stand alone unit the measured raw data are simultaneously sent to a serial port allowing data acquisition by any type of external computer. By use of the terminal program WinTerm, raw data can be exported to a spreadsheet program like Excel, Lotus, Quattro Pro or MicroWin for flexible data reduction.

WinGlow

- offers a variety of methods for evaluation of measurement data
- calculation of mean and coefficient of variation
- ratio calculations
- creation of diagrams displaying selected groups of kinetic curves of any well position
- smoothed or averaging kinetic curves
- multiple integration of kinetic measurements within any time interval

Applications

Reporter gene assays The new generation of reporter gene assays, firefly or Renilla luciferase, B-galacto-sidase, B-glucuronidase or secreted alkaline phosphatase, offers the most sensitive method for studying gene regulation. MicroLumatPlus is the optimal solution for reporter gene assays for research applications and in high-throughput-screening.

ATP-monitoring The high sensitivity of the MicroLumatPlus down to 10 attomoles ATP opens up the complete range of ATP based assays such as tumour chemosensitivity studies, antibiotic susceptibility testing or hygiene monitoring.

NAD(P)H assays Assays based on bacterial luciferases allow the measurement of many enzymes and metabolites in linked reaction systems.

Cellular luminescence Measurement of phagocytosis or cellular luminescence is a versatile tool for studying reactive oxygen species. The flexible function of the WinGlow software package is required when studying phagocytosis.

DNA probe assays Several diagnostic DNA probe assays based on acridinium ester labels are available for the most sensitive detection and diagnostics of infectious diseases.

Luminescence immunoassays (LIA, ILMA: Luminescence ELISA) With the most sensitive photon counting system the MicroLumatPlus is designed for a broad range of **in vitro** diagnostic applications. By changing colorimetric substrates of horseradish peroxidase or phosphatases to a luminescent substrate up to a 100-fold sensitivity increase for enzyme immunoassays has been proven.

Aequorine The flash luminescence of aequorine in the presence of calcium is used either as a sensitive label for immunoassays or to detect calcium at the lowest level.

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