Technical Specifications

Detection unit	:	Low-noise photomultiplier tube in single-photon counting mode
Sensitivity	:	0.03 mIU/L TSH 20 amol ATP ~ 7.5 zmol firefly luciferase
Dynamic range	:	> 6 orders of magnitude
Crosstalk	:	Low crosstalk through cross-talk reduction design< 10^6
Plate formats	:	96 well opaque microplates and strip plates with outer dimensions: (WxLxH) 85.48 x 127.76 x 14 mm
Interface	:	USB
PC operating system	:	Win 2000, Win NT, Win XP, Win Vista
PC requirements	:	Pentium processor, 500 MHZ (or better), CD ROM drive, display 1024x768 (or better), USB
Power supply	:	110-240 V, 50/60 Hz, 30 VA External auto ranging mains adaptor
Regulations	:	CE, UL, CSA
Temperature range	:	Storage 0 - 40° C Operation 15 - 35° C
Humidity	:	10 - 85 % non condensing
Dimensions	:	300 x 400 x 200 x mm (W x D x H)
Weight	:	6 kg

Operation Modes

Measurement time	:	0.1 to 600 sec
Measurement	:	by row or column
Delay	:	up to 600 sec
Shaking	:	variable amplitude and speed

Procedure

Principle Of The Assay

Streptavidine Biotin Method is used for detection of antigen.

Sample and Conjugate Addition

Co-incubation of sample/control and conjugate

Incubation

Reduced incubation time due to enhanced sensitivity

Washing

5 washing Cycles for removal of unbound material

Substrate Addition

During Substrate addition step Luminol and H_2O_2 are added to the wells.

Measurement

"Glow" type of luminescence in terms of relative light units (RLUs) are measured on specialized Benesphera Microplate Luminometer L21

Calculation

By relevance to a series of standards assayed in the same way, the concentration of the analyte in the unknown sample is known

Flexible Pack Size

Product

Thyroid Panel (T3, T4, TSH, fT3, fT4) : 24 T , 48 T , 96 T , 192 T

Fetlity Panel (LH, FSH, PRL) : 24 T , 48 T , 96 T , 192 T

Autoimmune (Anti TG, Anti TPO) : 24 T , 48 T

BeneSphera™ Brand

MICROPLATE LUMINOMETER

L 21

About Avantor™ Performance Materials

Avantor Performance Materials manufactures and markets high-performance chemistries and materials around the world under several respected brand names, including the J.T.Baker®, Macron Fine Chemicals™, Rankem™, BeneSphera™ and POCH™ brands.

Avantor products are used in a wide range of industries. Our biomedical and life science solutions are used in academic, industry and quality control laboratories for research, pharmaceutical production and medical lab testing, while our electronics solutions are used in the manufacturing of semiconductors and flat panel displays. Based in Center Valley, Pennsylvania (USA), Avantor is owned by an affiliate of New Mountain Capital, LLC.

*For additional information please visit **www.avantormaterials.com** or follow **www.twitter.com/avantor_news***

Ordering Information and Assistance

Customer Service and Technical Service
India
1201-1206, 12th Floor, Pinnacle Business Tower,
Shooting Range Road, Surajkund, Faridabad-121009, India
TEL: +91-129-4267000, 4267100, 4267200
FAX: +91-129-4267299, 4267199
E-MAIL: diagnostics.india@avantormaterials.com
SERVICE TOLL FREE NO.: 1800-102-5555

Netherlands
Teugseweg 20, 7418 AM Deventer, The Netherlands
TEL: +31-570-687500
FAX: +31-570-687574
E-MAIL: avantor.emea@avantormaterials.com

www.avantormaterials.com

ASK Avantor™
Our Web site features ASK Avantor,™ which includes live chat capabilities with customer service representatives.
www.avantormaterials.com/askavantor

Corporate Headquarters

Avantor Performance Materials, Inc.
3477 Corporate Parkway
Suite #200
Center Valley, PA 18034
USA

Worldwide Locations

• China	• Malaysia	• North America
• India	• Mexico	• Poland
• Korea	• The Netherlands	• Taiwan

For contact information at these locations, visit
www.avantormaterials.com/WorldwideDirectory

BeneSphera™ Brand
MICROPLATE LUMINOMETER
L 21

Automatic Performance Test
with optional test plate

Flexible definition
of wells to be measured

Sequence selection
for column or row strip assays

Multiple assays
per plate

Full support
of kit lot numbers

Storage of assay results
allowing off-line re-evaluation

Shaking
variable amplitude and speed

The Essence

Over the past two decades RIA has, to a large extent, been replaced by non-radiometric assays such as ELISA, FIA and LIA. ELISA assays have been a popular choice for immunoassays, because of their relatively low cost and open instrument platforms.

In recent years, luminescent substrates for horse-radish peroxidase and phosphatases have been developed with the potential to replace chromogenic substrates directly, resulting in substantial gains in sensitivity, speed and dynamic range.

Instrument Concept

Detector sensitivity and stability are photon counters. True photon counting has the benefit that no user parameters need to be set, ensuring the same conditions are used for every measurement during the instrument's life time. The fast photon counting circuitry provides a dynamic range in excess of six orders of magnitude, which complements the concentration range of the latest assays.

A design of the optical system achieves absolute minimization of cross-talk (down to 10^{-6}, depending on the type of microplate). Solid 96 well plates, as well as 8 well and 12 well strip plates can be measured.
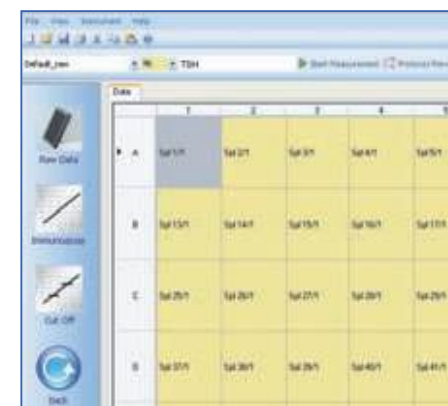
Inside the instrument precise x and y drives ensure exact positioning of the wells with respect to the detector.

Software

The software has been designed with the routine clinical laboratory in mind and offers protocols for all types of immunoassays.

An unlimited number of protocols

can be stored. Protocol types are Immunometric

Simple, intuitive menus

Intuitive wizard-driven menus guide the user through all the instrument set up parameters and assay definitions. The user just follows the screen menus and enters the required parameters for the specific assays. Clear understandable dialogues make the Benesphera brand Microplate Luminometer L 21 extremely user-friendly, easy-to-use, instrument.

Once the parameters for an assay have been defined the protocols are stored and can be re-called at any time for editing and measurement.

During routine operation, the user selects the required protocol, then simply loads the plate and starts the measurement.

The curve fitting

provides full standardization allowing multiple replicates of Standards, Totals, B_0 and NSB (Blanks).

Sophisticated curve-fitting

mathematics including logit-log or log-log transformation followed by curve-fit algorithm based on third-order spline functions with optimized automatic or manual smoothing or linear regression.

Storage of standard curves

is also possible by manual data entry (Master curve), or measurement of a reference curve, or simply storing the last curve used.

Two point calibration

using Stored Curve or Master Curve.