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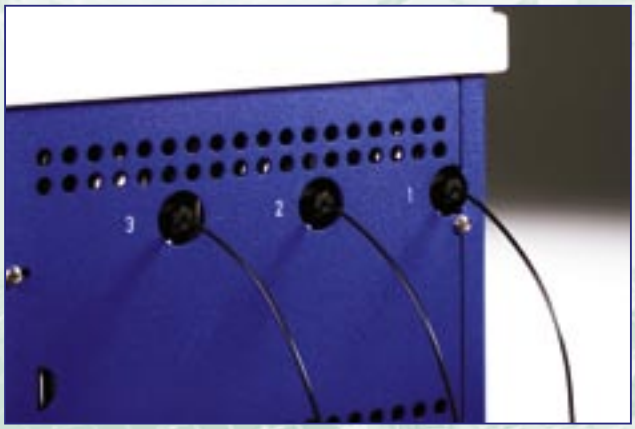


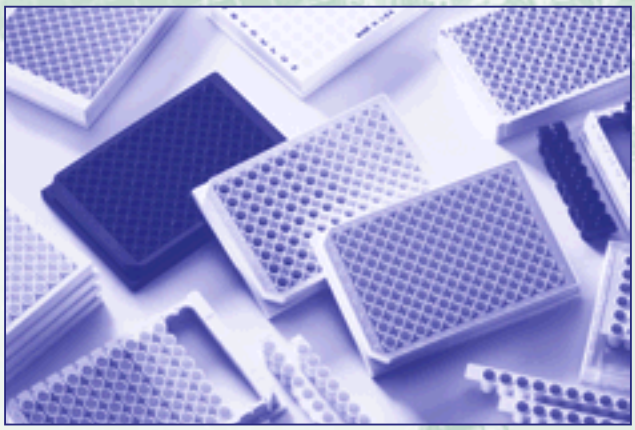

# Centro LB 960

## Microplate Luminometer

# Centro LB 960

## Microplate Luminometer

The Centro meets all currently known requirements for a versatile, robust and sensitive microplate luminometer. The selected detector and the proprietary design of the optical sytem guarantee lowest background and negligible crosstalk.

### DLReady™

Fulfilling and even exceeding the requirements to qualify as DLReady™, the Centro LB 960 is the ideal instrument for luciferase reporter gene assays especially Promega´s Dual Luciferase Reporter gene assay system.

High precision and efficiency of the injectors provide the opportunity to perform the assay rapidly – making it more applicable for screening environments.

BERTHOLD TECHNOLOGIES offers 4 different, predefined Centro models, which are application oriented:

- **Centro 96**
  Designed for luminescence glow applications in 96 well microplates
- **Centro Research**
  Is specially configurated enabling reporter gene applications like the Dual Luciferase Reporter gene assay
- **Centro HTS**
  Is equipped with all options required in screening environments, e.g. injectors, 384 well reading and robot integration modul
- **Centro Phago**
  Is equipped with temperature control and injectors to perform cellular luminescence applications like Phagocytosis monitoring

Additionally BERTHOLD TECHNOLOGIES provides a flexible Centro model that allows upgrade with different options according to your demands:

- **Centro 96 Plus**
  Luminescence glow applications and possibility to add the following options: 384 well format, up to three injectors, temperature control

## Plate formats

Any opaque microplate in either 96 or 384 well format can be measured. There is no need for any mechanical adjustment – just select the plate type in the operating software.

## Temperature control

The Centro can be equipped with plate heating for applications where the assay must be measured at elevated and constant temperature such as cell based assays.

The „sandwich" heating plate design reduces evaporation effects.

## Reagent dispensing

3 independently controlled injectors with variable volume give entire freedom in the selection of assay type and assay sequence.

The volume is adjustable from 10 to 100 µl – perfectly fitting the demands for reagent addition into 96 and 384 well plates.

Dispensing can even be performed during a kinetic measurement, e.g. to watch the effects of added agonists / antagonists.

JET injection technology stands for precision and accuracy – better than 99 % and 98 % respectively – and the only reliable way of properly mixing the added reagents.

## Robot access

Specially designed for, but not restricted to, use in HTS departments of drug discovery companies. The Centro's robot access module allows for easy integration of the unit into any type of lab automation system.

Software and hardware easily interface into existing robot, stacker or liquid handling systems. A barcode reader is available on request for positive plate identification.

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## Shaking

3 modes each with variable speed of the integrated shaker to enhance mixing and optimise sample distribution before measurement in long term kinetics.

## Small footprint

The ergonomic design of the LB 960 Centro requires minimal bench space. All the important features are built in making maximum use of available bench space.

The reagent injectors are housed within the small footprint, providing the advantage of short tubing and thus a low dead volume.

# Software

## MikroWin 2000

The Windows® based software combines operation and definition of instrument settings as well as data reduction and evaluation.

The wells for measurement and injection can be selected independently. Various operations can be selected and placed in any order to accommodate the different requirements of the assay.

Kinetic data reduction and graphical display of the respective curves helps the user to analyse the results. Any type of ratio calculation, e.g. DLR, or other mathematical formulae can be linked to each individual well.

Standard curve fitting and calculation of unknown samples is available for those users looking for quantification of their results.

All data can be exported in EXCEL® or ASCII formats.

# Accessories

## QC luminescence test kit

With the QC luminescence test kit the performance of your luminometer can be checked. This is the ideal quality control (QC) method as performance of both injection and detection systems can be monitored. The test kit follows a fast flash–type kinetics. The test kit contains a „label" and two types of starter reagents.

## Injector Cleaning Solution

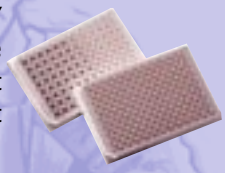
For proper maintenance of the injection system the Cleanit solutions are recommended for regular cleaning. Daily cleaning ensures that accuracy and precision as well as long life cycle of the injectors will be maintained.

## QC testplate for luminescence

With the testplate for luminescence you can check easily performance of the Centro luminometer. Selection of 96 or 384 well format and overload is possible.

## Microplates

BERTHOLD TECHNOLOGIES' microplates for luminescence applications will provide you best quality, low background and lowest crosstalk. They are available in different plate formats and optionally with clear bottom.



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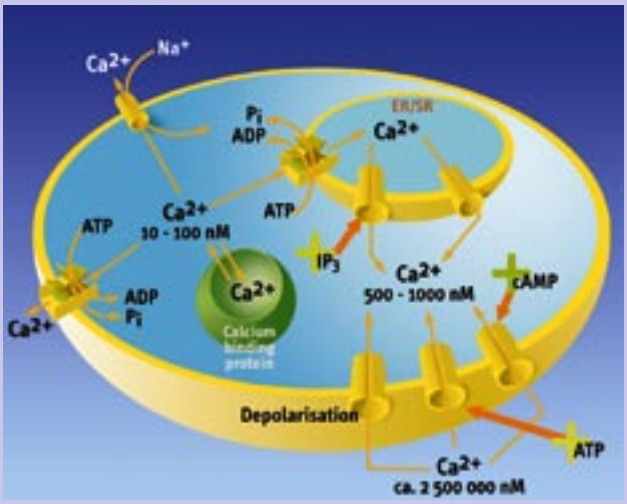
# Applications

## Reporter Gene Assays

In basic research of gene regulation as well as in drug discovery the use of luciferases, ß-galactosidases, ß-glucuronidases and secreted alkaline phosphatases have become a standard tool offering the highest sensitivity.

Especially the dual luminescence type assays, e.g. Dual-Luciferase® Reporter Assay, have become a favourite means as they provide an internal control for transfection efficiency or general expression level.

## Aequorin based Calcium monitoring



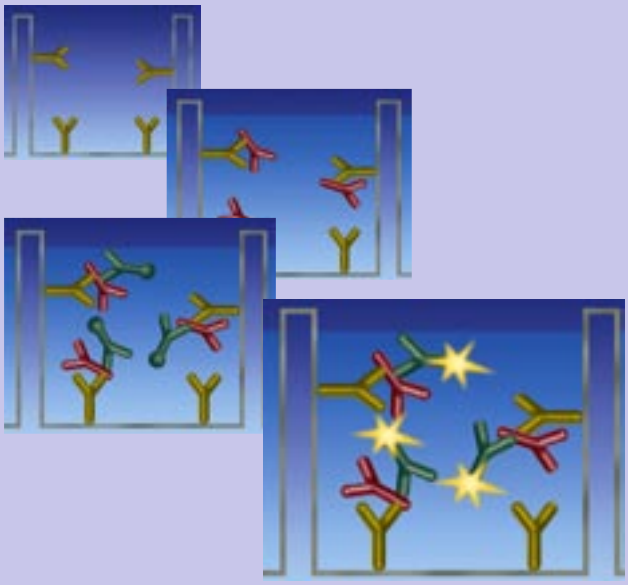

The monitoring of the changes in intracellular $Ca^{++}$ levels by the means of aequorin in a flash-type luminescent reaction is highly efficient. Assays for both, the activation of G-protein coupled receptors (GPCRs or 7TM receptors) inducing inositol phospholipid degradation and the activity of voltage gated $Ca^{++}$ ion channels - the latter causing a rather slow influx – can easily be performed with the use of the Centro´s reagent injectors.

## ATP determination

A detection of less than 10 attomoles of ATP per well makes the Centro one of the best suited microplate instruments for the determination of cell viability, e.g. in tumour chemosensitivity assays, cell proliferation, antibiotic susceptibility testing or bacterial detection.

## Luminescent Immunoassays (LIA, ILMA)

By replacing colorimetric substrates of horseradish peroxidase or phosphatases with luminescent ones an increase up to 100-fold in sensitivity can be achieved. MikroWin software with the curve fitting option adds convenient and extensive data evaluation capabilities to the superb instrument performance. Even the fastest flash-type Acridinium ester based immunoassays can be measured with the Centro.



## DNA probe assays

Several diagnostic DNA probe assays based on acridinium ester labelled oligio-nucleotides are commonly used providing the most sensitive detection and diagnosis of infectious diseases.

## SNP determination

SNPs are the most common type of human variability promising to play key roles in the development of deseases and response to therapeutic treatments. The Readit™ test is an accurate, reliable and convenient yet affordable approach which uses a light emitting luciferase reaction triggered by ATP. The ATP itself is derived from pyrophosphorolysis and a subsequent phosphorylation of ADP upon matched probe hybridisation.

# Centro LB 960

## Technical Specification and Order Information

| | |
|---|---|
| Detection Unit | Low–noise photomultiplier tube in single photon counting mode |
| Sensitivity | < 10 amol ATP |
| Dynamic range | > 6 orders of magnitude |
| Crosstalk | Low crosstalk through crosstalk reduction design: < $10^{-6}$ |
| Injection unit | Up to 3 injectors (variable volume: 10-100 µl), JET Injection technology |
| Plate formats | All 96 and 384 well microplates with outer dimensions: 86,0 x 128,2 x 14,7 mm (WxLxH) Filters with respective adapters |
| Robotic integration | Optional |
| Interface | Serial RS232, 9 pin |
| PC operating system | Win98, Win2000, WinNT, Win XP |
| PC requirements | Pentium processor, 500 MHz (or better), CD ROM drive, display 1024 x 768 (or better), serial port, parallel port |
| Software | BERTHOLD TECHNOLOGIES MikroWin 2000 |
| Power supply | 110 – 240 V; 50/60 Hz; 70 VA |
| Regulations | CE, UL, CSA |
| Temperature range | Storage: 0 ° – 40 °C Operation: 15 ° – 35 °C |
| Humidity | 10 – 85 % non condensing |
| Dimensions | 330 x 430 x 270 mm (WxDxH) |
| Weight | 17 Kg |

### Operation modes

| | |
|---|---|
| Integral | 0.1 - 600 sec |
| Kinetics | total time up to 24 h |
| Repeated | total time up to 24 h |
| Plate repeats | up to 999 |
| Dispensing | 3 independent variable volume injectors |
| Shaking | 3 modes, variable amplitude and speed |
| Delay | up to 3600 sec |

Pre–set parameter files, e.g. Dual Luciferase Reporter Gene assay, DualGlow Reporter Gene assay, Kinetics assay, Repated assay type (Cellular Luciferase)

| Order Information | Order Number |
|---|---|
| LB 960 Centro 96<br>For Glow applications, 96 well only<br>MikroWin 2000 Lite# – not upgradeable | 38100-05 |
| LB 960 Centro 96 Plus<br>as Centro 96 but allows upgrade | 38100-10 |
| LB 960 Centro Research<br>96 well only, 2 reagent injectors,<br>MikroWin 2000 Lite# | 38100-50 |
| LB 960 Centro HTS<br>96 + 384 well, 3 reagent injectors,<br>robot integration module MikroWin 2000 Adv.II# | 38100-51 |
| LB 960 Centro Phago<br>96 well, 3 reagent injectors,<br>heating, MikroWin 2000 Lite# | 38100-52 |
| Injector 1 pre-position 2, 10 - 100 µl | 37772-01 |
| Injector 2 pre-position 1, 10 - 100 µl | 37772-02 |
| Injector 3 measurement position, 10-100 µl | 37772-03 |
| Waste pump | 38216 |
| 384 well upgrade | 38211 |
| Temperature control 96 well version | 41064 |
| Temperature control 96/384 well version | 41063 |
| Robot integration module | 39368 |
| Luminescence testplate for Quality Control | 40105-10 |
| Luminescence test kit for Quality Control | 45366 |
| Cleanit Daily, injector cleaning solution | 45218 |
| Microplates 96 well, white, 100 pieces | 23300 |
| Microplates, 96 well, white clear bottom, cell culture, 100 pieces | 24910 |
| Microplates 384 well, white, 40 pieces | 32505 |

#Upgrade (MikroWin Advanced versions I or II) and additional licences available



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