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**DETECTION**

Now, you can optimize your personal workflow. Promega instruments and reagents integrate easily.

# GLOMAX<sup>®</sup>

## 20/20 LUMINOMETER

An ultra-sensitive, versatile, and affordable single tube luminometer for Life Science Research.



# GLOMAX<sup>®</sup>-20/20 LUMINOMETER

## OVERVIEW

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The GloMax<sup>®</sup>-20/20 Luminometer is designed to provide ultra-high performance for bioluminescent and chemiluminescent assays. In addition to high performance, the GloMax<sup>®</sup>-20/20 blends user-friendly operation and a small footprint with flexible purchasing options. The result of this design is an instrument with superior performance that is easy to use, affordable, and can be customized to your lab's needs.

## SUPERIOR PERFORMANCE

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The GloMax<sup>®</sup>-20/20 Luminometer provides exceptional sensitivity for all luminescent assays. Proprietary circuitry and an advanced photon-counting photomultiplier tube (PMT) produce unmatched signal-to-noise ratios. GloMax<sup>®</sup>-20/20 has a detection limit of  $1 \times 10^{-21}$  moles of luciferase, making it one of the most sensitive tube luminometers available.

With greater than 8 logs of linear dynamic range, the GloMax<sup>®</sup>-20/20 Luminometer can measure both dim and bright samples without dilution. The extended dynamic range spans the full range of virtually all chemiluminescent and bioluminescent assays, eliminating the need to dilute samples or manage detector-driven gain changes.

## EASE OF USE

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The GloMax<sup>®</sup>-20/20 is designed to be put into use straight from the box without the need to read a manual or obtain special training. To achieve this plug-and-play usability, the GloMax<sup>®</sup>-20/20 combines a color touch screen with an intuitive user interface. The interface makes running samples and viewing data fast and simple while also maintaining the flexibility needed for advanced or custom protocols.

## VERSATILITY

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The GloMax<sup>®</sup>-20/20 is a versatile addition to any lab. The optional single or dual auto-injectors allow measurement of either flash or glow-type luminescence, while the flexible sample compartment accommodates 1.5 ml microcentrifuge tubes, 35 mm petri dishes, or an optional 12 mm x 50 mm test tube adapter. It is also possible to measure the light output from both liquid and solid samples. In addition, the bottom reading design means there are no minimum volume requirements. For added functionality, two fluorescent modules are available, expanding the GloMax<sup>®</sup>-20/20 functionality to common fluorescence applications.

# INSTRUMENT FEATURES

## FLEXIBLE SAMPLE COMPARTMENT

The GloMax<sup>®</sup>-20/20 accommodates 1.5 ml microcentrifuge tubes, 35 mm petri dishes, and 12 mm x 50 mm test tubes (with optional adapter). It is also possible to measure the light output from both liquid and solid samples.

## LID START

Adjust settings to start measurement immediately after the lid is closed.

## TOUCH SCREEN

The touch screen allows simple navigation between screens for setting parameters, storing protocols, and starting runs.

## DATA HANDLING

The GloMax<sup>®</sup>-20/20 stores up to 18 protocols and displays data from the last 20 measurements on the LCD screen. Spreadsheet Interface Software to connect to a PC, and an optional thermal printer are also available for easy data exporting.



## SINGLE OR DUAL AUTO INJECTORS (OPTIONAL)

Injectors dispense fluids from 25 - 300  $\mu$ l and enable detection of flash-based luminescence or dual-reporter assays. Completely visible plumbing allows inspection of tubing and tips during flushing and priming.

## LUMINESCENCE APPLICATIONS

- Dual Reporter Assays
- Cell Viability/ATP Assays
- Kinetics Assays
- Intercellular Ca<sup>+2</sup> Assays
- Immunoassays

## FLUORESCENCE APPLICATIONS

- DNA/RNA Quantitation
- Protein Quantitation
- Gene Expression

## DETECTION MODES



Luminescence



Fluorescence

# SUPERIOR PERFORMANCE

## LUMINESCENCE

To achieve the GloMax®-20/20's high sensitivity, the luminescence channel is positioned directly below the sample well. These conditions maximize light capture. In addition, a low-noise photomultiplier tube ensures that collected light is not compromised. The GloMax®-20/20 has greater than 8 logs of dynamic range. This dynamic range is more than adequate to cover common luminescence applications, thus reducing the need to dilute samples.

## LUMINESCENCE LIGHT STANDARD

The GloMax®-20/20 Luminometer Light Standard provides an external control to verify performance. Some labs require this additional verification procedure. Reading the light standard before taking measurements is a quick and easy way to ensure quality control of reproducibility, sensitivity, and linearity of measurements.



## FLUORESCENCE

Optional Fluorescence Modules add functionality to the GloMax®-20/20. The modules are designed to measure common fluorescence applications using excitation wavelengths in the near UV or Blue light range. The Fluorescence Modules provide sensitive measurements of DNA, RNA, or protein quantitation dyes.

Fluorescence Module	Typical Fluorophores
UV (Ex 365 nm, Em 440 - 470 nm)	Hoechst dye 4-methyl-umbelliferone (4-MU)
Blue (Ex 460 nm, Em 515 - 575 nm)	EGFP rAcGFP DNA Quantitation RNA Quantitation Fluorescein Protein Quantitation



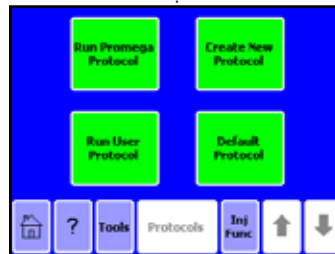
# INTUITIVE USER INTERFACE

- Simple parameter set up allows flexibility without adding complexity.
- Collect data quickly and easily while still maintaining total instrument control.



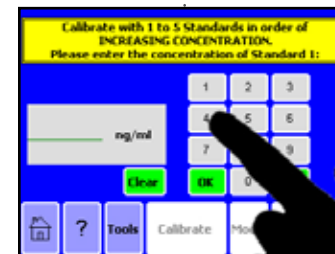
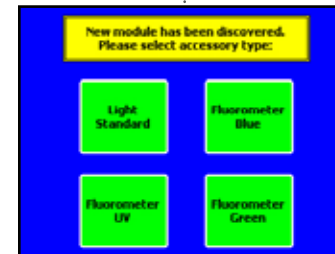
## LUMINESCENCE

Choose from pre-loaded Promega protocols, the default protocol, or create your own custom protocol. Use the Instrument Control screen to edit parameters, then press MEASURE LUMINESCENCE.



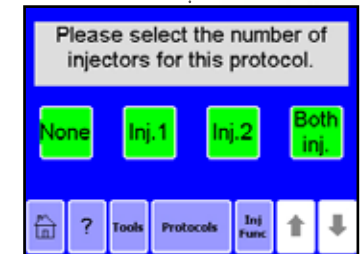
## FLUORESCENCE

Snap in one of two Fluorescence Modules, power cycle the instrument, and the GloMax®-20/20 automatically adjusts screens and options.



## INJECTOR CONTROL

Control injectors from the touch screen. Both PRIME and FLUSH commands are integrated into the software.



# INSTRUMENT SPECIFICATIONS

## GLOMAX® - 20/20

Available Detection Modes	Luminescence, Fluorescence (optional)
Detector	Photomultiplier tube (PMT)
Spectral Range	350 - 650 nm
Peak Wavelength	420 nm
Detection Limit	3 x 10 <sup>-18</sup> moles ATP or 1 x 10 <sup>-21</sup> moles Luciferase
Linear Dynamic Range	>8 logs
Read Type	Glow, Flash, Kinetic, Repeat
Sample Format	1.5 ml microcentrifuge tubes, 35 mm petri dishes, 12 mm x 50 mm test tubes (optional), minicell vials (optional, Fluorescence)
Sample Adapter	Holds 1.5 ml microcentrifuge tubes, optional 12 mm x 50 mm test tube holder available
User Interface	Touch screen navigation and operation
Data Output	Data displayed on screen or connect to PC (not included) via serial cable to download. Optional thermal printer available
External PC Requirements (optional)	Windows XP SP2 or higher
Computer Interface	100% ASCII format through a 9-pin RS-232 serial cable at 9600 baud rate
Power	12 V 1.5 A Max
Auto Shutoff	Touch screen hibernates after 15 minutes of inactivity
Dimensions	12.92" D x 10.44" W x 8.42" H (32.82 cm D x 26.52 cm W x 21.39 cm H)
Weight	8.4 lbs (3.81 kg)
Operating Temperature	60 - 105 °F (15 - 40 °C)
Warranty	One year
Approvals	CE

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## FLUORESCENCE

Light Source	Wavelength-matched LED
Detector	PMT
Wavelength Selection	Snap-in Fluorescence Modules
Wavelengths	UV Fluorescence Module <ul style="list-style-type: none"> <li>• Wavelengths: Ex 365 nm, Em 440 - 470 nm</li> <li>• Detection Limit: 10 ng/ml dsDNA using Hoechst Dye 33258</li> </ul> Blue Fluorescence Module <ul style="list-style-type: none"> <li>• Wavelengths: Ex 460 nm, Em 515 - 575 nm</li> <li>• Detection Limit: 450 pg/ml dsDNA with DNA Quantitation Dye</li> </ul>
Linear Dynamic Range	5 logs, assay dependent
Sample Adapter	100 - 200 µl minicell vial
Read Out	Fluorescence Standard Units, Direct Concentration
Calibration	Single-point calibration
Discrete Sample Average	Sample readings averaged over 5 seconds to improve accuracy

## SINGLE AUTO INJECTOR SYSTEM (OPTIONAL)

Number of Injectors	One injector
Dispense Volume Range	Selectable between 25 - 300 µl in 5 µl increments

## DUAL AUTO INJECTOR SYSTEM (OPTIONAL)

Number of Injectors	Two injectors
Dispense Volume Range	Selectable between 25 - 300 µl in 5 µl increments

