

Fast.
Simple.
Accurate.



CytoCite™ Fluorometer

Palm-sized device with unlimited assay possibilities

CytoCite™ Fluorometer

The CytoCite™ BG100 Fluorometer is an easy-to-use, single channel instrument designed for rapid fluorescence quantitative analysis and assay development. When paired with the appropriate bioassay, the CytoCite™ BG100 Fluorometer measures biomolecules - proteins, DNA, RNA, bacteria and other small molecules - with a high degree of sensitivity, accuracy and reproducibility. With its small benchtop footprint, the CytoCite™ BG100 Fluorometer can be easily integrated into any laboratory setup, point of care use or field test.



Figure 1. CytoCite™ BG100 Fluorometer.

Device Cloud - Device Access & Management

Featuring an intuitive cloud-integrated platform powered by AAT Bioquest Device Cloud, the CytoCite™ BG100 Fluorometer allows researchers to access and manage valuable data from any authenticated computer or smart device. When logged-in to the Device Cloud website, users can access a comprehensive suite of Quest Graph™ tools for fast and easy data analysis.

Portelite™ Quantitation Kits

Designed for use with the CytoCite™ BG100 Fluorometer is the most comprehensive library of Portelite™ Fluorimetric Quantitation Kits and fluorimetric reagents for precise and reliable quantification.



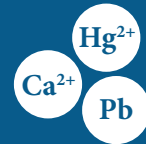
DNA & RNA



Bacteria



Endotoxins



Calcium, Mercury & Lead

Technical Specifications

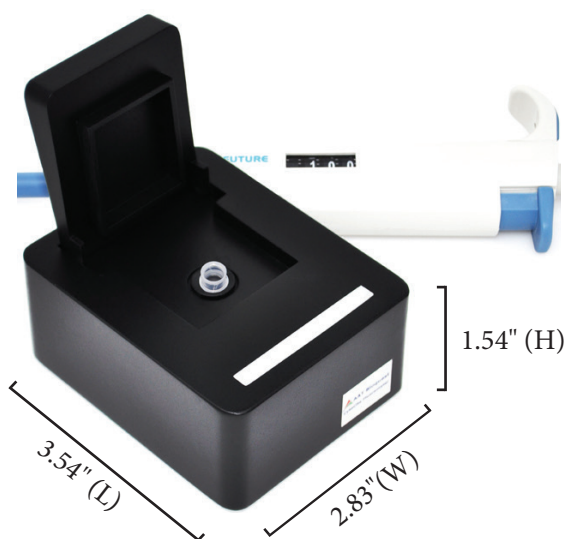


Figure 2. CytoCite™ BG100 Fluorometer dimensions.

Superior Sensitivity

The CytoCite™ BG 100 Fluorometer features:

- A broad dynamic range - linear over 5 orders of magnitude
- Detection of as little as 1 nM of fluorescein (FITC channel)
- Small assay volumes, with a minimum assay volume of 150 μL and sample volume of as little as 1 μL
- Portfolio of assays capable of detecting as little as 25 $\text{pg}/\mu\text{L}$ dsDNA or 12.5 $\mu\text{g}/\text{mL}$ of protein

Enhanced Accuracy

Unlike UV absorbance measurements (e.g. NanoDrop™), CytoCite™ BG100 measurements are not affected by the presence of contaminants such as salts, solvents or free nucleotides, making quantitation of intact DNA and proteins much more accurate in complex mixtures such as serum or whole blood.

Table 1. CytoCite™ BG100 Fluorometer specifications.

Instrument	CytoCite™ BG100 Fluorometer
Dimensions	3.54"L x 2.83"W x 1.54"H
Weight	~0.3 lbs (135 g)
Operating Ranges	10 - 30 °C; < 80% relative humidity
Installation location	Indoor use only
Typical Power Consumption	2.5 VA
Power Requirements	5 VDC, 0.5 A
Computer Interface	Micro-USB B, USB 2.0
Dynamic Range	5 orders of magnitude
Light source (device dependent)	Blue LED (max ~470 nm)
Excitation Filter (device dependent)	Blue 457 - 487 nm
Emission Filter (device dependent)	Green 515 - 565 nm
Detector	Photodiode
Tube Type	0.2 mL clear, thin-wall PCR tubes
Minimum Assay Volume	150 μL

Device Cloud Software

The CytoCite™ BG100 Fluorometer's cloud integrated platform, powered by Device Cloud, is a sophisticated device and data management system. It enables researchers to seamlessly synchronize data to any authenticated computer or smart device for secure and reliable access to their data from anywhere, anytime. With Device Cloud experience the flexibility and convenience to monitor instruments, read samples and organize results.

Connect to AAT Bioquest's Device Cloud website and securely access all the functions of the Device Cloud software suite and instrumentation from the convenience of your web browser. This includes data collection, storage and analysis, as well as access to AAT Bioquest's comprehensive Quest Graph™ analytical suite, for fast and easy regression modeling, calculations and more.



Maximum Security

End-to-end encryption algorithms keeps your valuable data safely protected



Stay in Sync

Seamlessly synchronize to and access your valuable data from any authenticated device such as desktops, smartphones, tablets, etc.



Unlimited Data Storage

Free unlimited data storage and convenient data export to Microsoft Excel, as well as comma separated values (.csv)



Daily Backups

Automated daily backups to prevent unexpected data loss

Quest Graph™ Analytical Suite

Quest Graph™ analytical suite is a comprehensive set of online tools designed to streamline and simplify your workflow providing assistance in experimental planning, developing and analysis. Quest Graph™ makes rigorous data analysis and regression modeling, IC_{50} calculations and more easy to master in minutes. Simply connect the CytoCite™ BG100 Fluorometer to the Device Cloud website, and start analyzing.

Analytical Tools Include:

- Linear, logarithmic & semi-log regression modeling for analyzing bioassays such as ELISA
- IC_{50} & EC_{50} calculations for characterizing and screening agonists and antagonists of biological processes
- ED_{50} & LD_{50} calculations for determining the therapeutic efficacy of novel pharmacological compounds
- An interactive spectrum viewer, serial dilution calculator & scalable buffer recipes to assist with experimental design



Figure 3. Device Cloud Dashboard.

Portelite™ Assays

Portelite™ Fluorimetric Quantitation Kits — designed for use with the CytoCite™ BG100 Fluorometer — provides a simple and accurate method for quantitating dsDNA, proteins and other small molecules in solution. Each Portelite™ assay is:

- **Easy-to-Perform** — just dilute the dye in supplied buffer, add the sample and read fluorescence
- **Highly Selective** — assays use target-selective fluorescent dyes that fluoresce only when bound to their respective target, minimizing the effects of contaminants on results
- **Highly Sensitive** — Portelite™ assays are orders of magnitude more sensitive than UV-absorbance measurements.

Portelite™ Fluorimetric High Sensitivity DNA Quantitation Kits

Accurate quantitation of DNA is critical to the success of many downstream applications such as sequencing, PCR amplification and genotyping. The Portelite™ Fluorimetric High Sensitivity DNA Quantitation Kit provides a rapid and sensitive method for quantifying dsDNA over ssDNA, RNA and free nucleotides. Helixyte™ Green used in this assay, is a highly-selective dsDNA dye that exhibits a significant fluorescence increase upon dsDNA binding. This assay is linear over four orders of magnitude and is designed to be accurate for sample concentrations from 25 pg/μL to 100 ng/μL.

Table 2. Portelite™ DNA Quantitation kit specifications.

Specifications	Portelite™ DNA Assay
Ex/Em	480/520 nm
Target	dsDNA
For Use With	CytoCite™ BG 100 Fluorometer
Initial Sample Concentrations	25 pg/μL to 100 ng/μL
Quantitation Range	0.2 - 100 ng dsDNA
Reagents	Helixyte™ Green DNA Assay Buffer 2 DNA Standards
No. of Assays	100 tests (Cat No. 17660) 500 tests (Cat No. 17661)

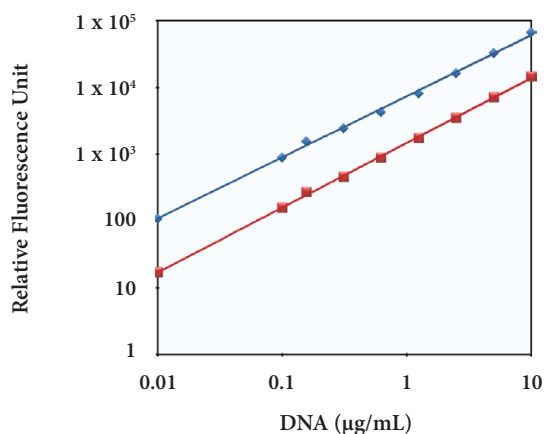


Figure 4. DNA standard curves generated using Portelite™ DNA Quantitation Kit comparing the CytoCite™ Fluorometer (Blue) versus the Qubit™ 4 Fluorometer (Red). Fluorescence intensities were quantified using FITC channel, regression models were calculated using log-log best-fit. Detection limit for both devices were comparable at 10 pg/μL (R^2 CytoCite™ = 1, R^2 Qubit™ = 1).

Portelite™ Fluorimetric Protein Quantitation Kits

Protein quantification is an integral part of protein purification, labeling and analysis. Traditional methods, such as the Bradford, Lowry and BCA assays, rely on absorbance-based measurements to quantify proteins. However, these methods are limited in sensitivity range, and require large sample volumes to ensure accuracy. The Portelite™ Fluorimetric Protein Quantitation Kit is significantly more sensitive than conventional colorimetric protein measurements. The Portelite™ Orange reagent used in this assay is non-fluorescent in aqueous solution, but reacts rapidly with proteins and generates bright fluorescence. This assay can detect as little as 50 ng/mL of protein and is designed to be accurate for sample concentrations from 12.5 µg/mL to 5 mg/mL BSA.

Table 3. Portelite™ Protein Quantitation kit specifications.

Specifications	Portelite™ Protein Assay
Ex/Em	480/520 nm
Target	Protein
For Use With	CytoCite™ BG 100 Fluorometer
Initial Sample Concentrations	12.5 µg/mL to 5 mg/mL
Quantitation Range	0.25 to 5 µg protein
Reagents	Portelite™ Orange Sample Dilution Buffer 3 BSA Standards
No. of Assays	100 tests (Cat No. 11109) 500 tests (Cat No. 11111)

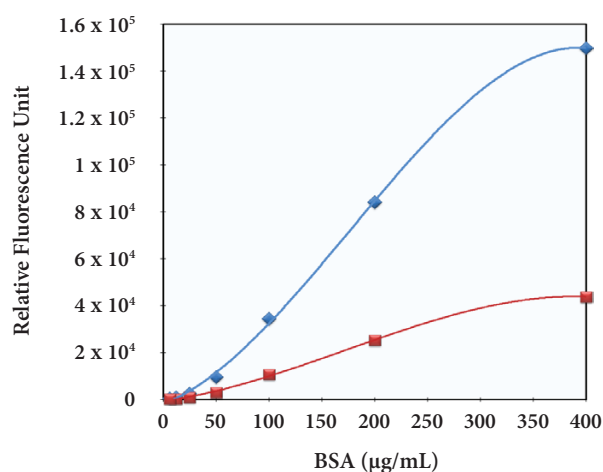


Figure 5. BSA standard curves generated using Portelite™ Fluorimetric Protein Quantitation Kit comparing the CytoCite™ Fluorometer (Blue) versus the Qubit™ 4 Fluorometer (Red). Fluorescence intensities were quantified using FITC channel, regression models were calculated using polynomial best-fit. Detection limit for both devices were comparable at 12.5 µg/mL (R^2 CytoCite™ = 1, R^2 Qubit™ = 0.999).

Table 4. Product ordering information for CytoCite™ Fluorometer and Portelite™ assay kits.

Cat#	Product Name	Ex (nm)	Em (nm)	Size	Price
CBG100	CytoCite™ BG100 Portable Fluorometer	480	520	Each	\$2000
CCT100	CytoCite™ Sample Tubes			500 Tubes	\$75
17660	Portelite™ Fluorimetric High Sensitivity DNA Quantitation Kit *Optimized for CytoCite™ and Qubit™ Fluorometers*	501	520	100 Tests	\$75
17661	Portelite™ Fluorimetric High Sensitivity DNA Quantitation Kit *Optimized for CytoCite™ and Qubit™ Fluorometers*	501	520	500 Tests	\$195
11109	Portelite™ Fluorimetric Protein Quantitation Kit *Optimized for CytoCite™ and Qubit™ Fluorometers*	485	590	100 Tests	\$75
11111	Portelite™ Fluorimetric Protein Quantitation Kit *Optimized for CytoCite™ and Qubit™ Fluorometers*	485	590	500 Tests	\$195



AAT Bioquest, Inc.
520 Mercury Dr.
Sunnyvale, CA 94085



1-800-990-8053 (US and Canada)
1-408-733-1055 (International)



sales@aatbio.com

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guarantee



SUPPORT
outstanding
technical
support

info@stratech.co.uk

stratech.co.uk/aat_bioquest

+44 (0) 1638 782600