

User Manual for CytoCite™ Fluorometer

The CytoCite™ Fluorometer is a cloud integrated, benchtop fluorometer. When paired with the appropriate bioassay, it can be used to quantify proteins, DNA, RNA and other small molecules with a high degree of sensitivity and reproducibility. It can also be used as a standalone single channel fluorometer for assay development. Features of the CytoCite Fluorometer include:

- Rapid quantification of proteins, DNA, other small molecules, bacteria and cells.
- A comprehensive library of optimized bioassays and fluorometric reagents designed specifically for the CytoCite Fluorometer
- Detection of as little as 1 nM of fluorescein fluorescence standard (Green channel only)
- Small assay volumes, with a minimum volume of 150 μ L and a sample volume of as little as 1 μ L
- Unlimited storage of sample results
- Synchronization of sample results across platforms, accessible from any authenticated computer or phone
- Automated daily data backups prevent unexpected data loss
- Convenient data export to Microsoft Excel (*.xls, *.xlsx) as well as comma separated values (*.csv)
- Device operation from the ease of familiar web browsers
- Integration with AAT Bioquest's powerful Quest Graph™ tool suite for regression modeling, IC_{50} calculations and more

Product Contents

The CytoCite Fluorometer is shipped with the following components:

Component Name	Quantity
CytoCite Fluorometer	1 each
Micro-USB B Cable (5 ft.)	1 each
1GB USB Flash Drive	1 each
WiFi Card	1 each
Certificate of Conformity (COC)	1 each

- Upon receiving the instrument, please ensure that all of the above components are present and undamaged.
- Please note that some of the components may be stored in an inner box located underneath the primary storage compartment. Be sure to check the entire contents of the package before disposing of it.

Product Specifications

The general layout of the CytoCite Fluorometer is shown in Fig 1. The key components are as follows:

- 1. Micro-USB B cable port.** The CytoCite Fluorometer must be connected to a computer through the micro-usb port, located on the back of the device, in order to function.
- 2. Sample chamber.** This is where the sample containing assay tube must be placed before initiating fluorometric analysis with the instrument.
- 3. Power indicator.** LED strip that lights up when the device is successfully paired with the AAT Bioquest Device Cloud software. Please note that simply plugging the CytoCite Fluorometer into a computer will not cause the power indicator to light up. It will only light up when actively running through the AAT Bioquest Device Cloud software.
- 4. Authenticity sticker.** All authentic CytoCite Fluorometer devices will have a hologram sticker as well as a Certificate of Conformity (COC) shipped with the device. Please contact devices@aatbio.com if either is missing.



Figure 1. Layout of key components of the CytoCite Fluorometer.



Figure 2. Underside of the CytoCite Fluorometer. Device ID highlighted in red.

The following table lists the physical, electrical and optical properties of the CytoCite Fluorometer:

Instrument	CytoCite Fluorometer
Dimensions	3.54"L x 2.83"W x 1.54"H (9.0 cm x 7.2 cm x 3.9 cm)
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

General Guidelines and Safety

1. For information regarding setup and usage of the AAT Bioquest Device Cloud software, please visit devices.aatbio.com/documentation or refer to User Manual for AAT Bioquest Device Cloud Software.
2. For information regarding setup and usage of the AAT Bioquest Device Cloud website, please visit devices.aatbio.com/documentation or refer to the User Manual for AAT Bioquest Device Cloud Website.
3. Before using the CytoCite Fluorometer, please ensure that the perimeter around the device is clear of debris and protected from liquid spills.

4. The CytoCite Fluorometer is specified for operation between 10 °C to 30 °C (50 °F to 86 °F) with operating humidity < 80% relative humidity.
5. The instrument should not be operated under direct sunlight, and the sample chamber lid should be closed while reading is in progress.
6. All assay reagents should be brought to room temperature before use, unless otherwise specified in the assay protocol.
7. Standard lab safety precautions, such as wearing gloves, should be taken during operation of the device.
8. Ensure that you are using the correct tube type when running assays. Only clear, thin-walled 0.2 mL PCR tubes are appropriate for use with the CytoCite Fluorometer.
9. The device must be connected and paired with the AAT Bioquest Device Cloud software before sample reading can be initiated.
10. Creating a Device Cloud account will allow you to sync your data across multiple platforms.
11. Only appropriate buffers and reagents, such as those provided by assay kits, should be utilized with the CytoCite Fluorometer.
12. For additional safety information or safety data sheets, please contact devices@aatbio.com.
13. For commonly asked questions, please see the troubleshooting guide at devices.aatbio.com/documentation.

Example Assay

The following section details the steps required to run an assay using the CytoCite Fluorometer. For this example, the reagent will be a fluorescein standard of some known concentration.

1. Follow the steps required to install the AAT Bioquest Device Cloud software on your computer at devices.aatbio.com/documentation or refer to User Manual for AAT Bioquest Device Cloud Software.
2. If the device is also intended to be used with the Device Cloud website, additional steps may be required, as described at devices.aatbio.com/documentation or in User Manual for AAT Bioquest

Device Cloud Website.

3. Once the Device Cloud software is installed and running on the local computer, use the Micro-USB B cable (included) to connect the instrument to the computer.
4. Shortly thereafter, the power indicator light on the device should turn on, indicating successful pairing with the Device Cloud software. If issues arise while syncing the device to the Device Cloud software, please consult the troubleshooting guide for further instructions at devices.aatbio.com/documentation.
5. Once the device is successfully paired with the Device Cloud software, assay preparation should begin. Follow the protocol for the chosen assay to prepare assay standards and test samples. Samples and standards may be prepared directly in the PCR tubes or prepared in a separate tube and transferred.
6. Read each sample, one at a time, using either the Device Cloud software or the Device Cloud website at devices.aatbio.com/documentation.
7. Once all samples have been read, data can be exported to Excel (*.xlsx) or comma separated values (*.csv) for data analysis.
8. For protein standard curves, we recommend using our Bradford protein assay calculator at aatbio.com.
9. For DNA standard curves, we recommend using our linear regression modeling calculator at aatbio.com.
10. For four parameter analysis, we recommend using our 4PL calculator at aatbio.com.