

Countleader FL 100 Fluorescence Cell Counter



- ◆ High-precision analysis using AO/PI dual fluorescent staining
- ◆ Fast analysis—results in as little as 25 seconds per sample
- ◆ Minimal sample volume required—only 15 μ L
- ◆ Easy-to-use workflow with fully automated analysis
- ◆ No cleaning, calibration, or maintenance required
- ◆ Compliant with 21 CFR Part 11

Product Overview

The Countleader FL 100 is an image-based fluorescence cell counter equipped with two fluorescence channels and an advanced integrated optical and image recognition system.

Using AO/PI fluorescent staining, it can accurately analyze up to eight samples simultaneously. By combining fluorescence imaging with statistical analysis, it delivers precise information on cell concentration, viability, and morphology.

Streamlined Workflow with Fully Automated Analysis

1

Cell Staining & Sample Preparation

Mix cells and AO/PI dye at a 1:1 ratio thoroughly to ensure uniform staining



2

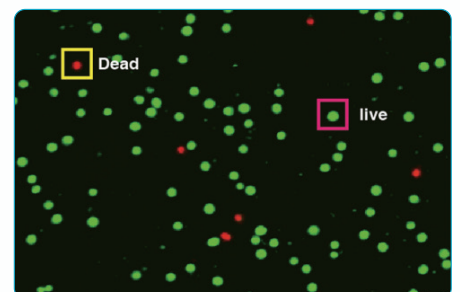
Sample Loading

- Uses dedicated 8-channel FL8 slides
- Requires only 15 μ L per well
- Compatible with multichannel pipettes for simplified handling

3

Rapid Analysis

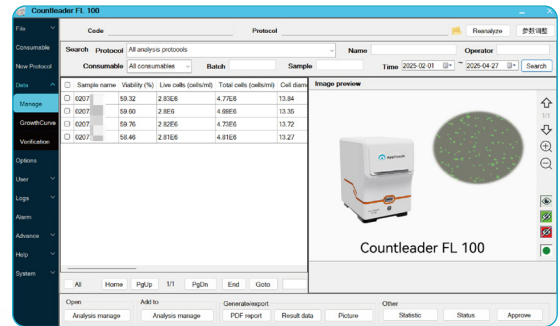
- Select the appropriate sample well and set parameters to start
- Auto-focusing—no manual adjustment needed
- Analyze 8 samples in 3–4 minutes; as fast as 25 seconds per sample!



Powerful and Flexible Software Interface

Consumable & Sample Settings

- ✓ Easily set sample parameters and customize detection channels
- ✓ Large sample counts reduce statistical error; select 1–3 fields of view for analysis
- ✓ Individually name each sample for easy data retrieval
- ✓ Single-well mode supports multiple analysis methods simultaneously
- ✓ Automatically compensates for cell dilution factor



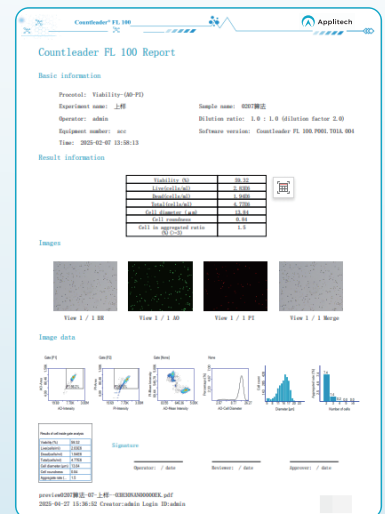
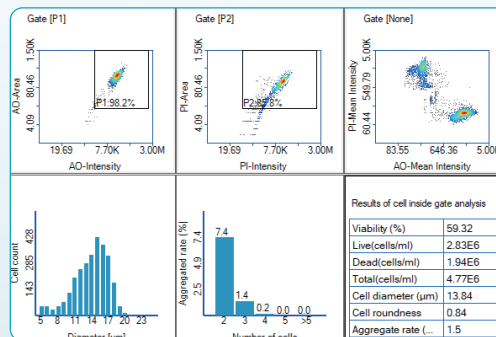
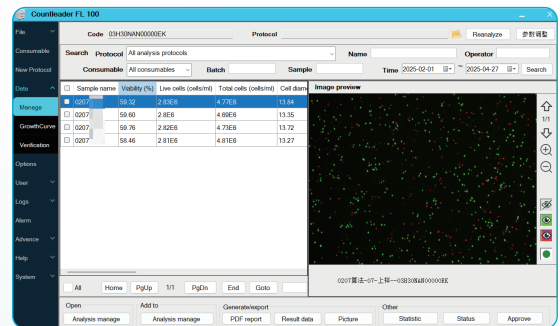
Data & Analysis

Quick Search

Effortlessly locate results by experiment name, date, or sample name.

Comprehensive Data Display

- ✓ Viability
- ✓ Live cell concentration
- ✓ Total cell concentration
- ✓ Dead cell concentration
- ✓ Cell diameter
- ✓ Cell roundness
- ✓ Aggregation ratio
- ✓ Growth curve
- ✓ Pseudo-flow scatter plot
- ✓ Fluorescent cell images
- ✓ Cell diameter distribution graph



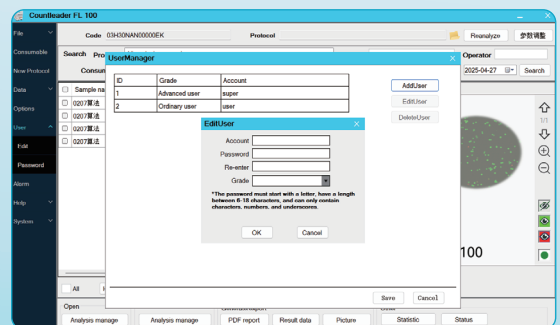
Multi-Format Export

Results can be exported directly in PDF, Excel, or TIFF formats for convenient viewing and archiving.

User Management

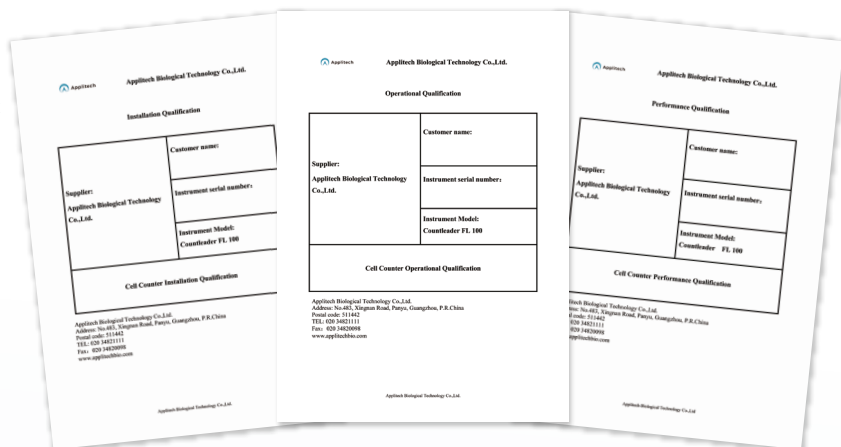
The Countleader FL 100 supports a three-level user login system in compliance with GMP and 21 CFR Part 11, offering:

- ✓ Secure user login
- ✓ Multi-level user permissions
- ✓ Audit trail
- ✓ Electronic signature



3Q Verification (IQ/OQ/PQ)

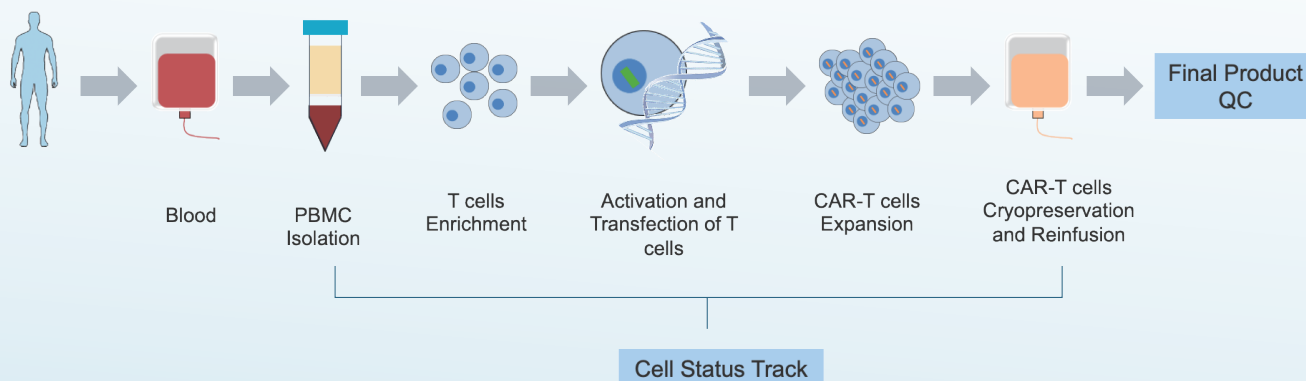
The Countleader FL 100 offers full 3Q validation services, including IQ (Installation Qualification), OQ (Operational Qualification), and PQ (Performance Qualification). Validation beads at various concentrations are available to support different cell concentration testing needs. Complete validation documentation is provided to facilitate regulatory submission and compliance.



Applications

CAR-T Therapy

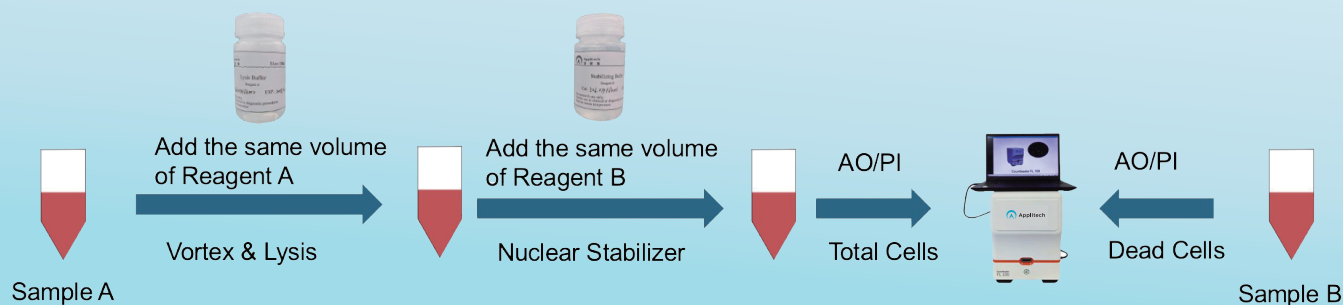
AO/PI staining targets cellular nuclear DNA, providing accurate and reliable counts without interference from anucleate components such as red blood cells, platelets, debris, bubbles, or magnetic beads. It is ideal for counting CAR-T cells, PBMCs, low-purity cells, and irregular or stressed cells—no need to adjust parameters based on cell morphology or diameter, reducing potential counting errors.



Microcarrier Cell Counting

Applitech offers a gentle and effective lysis solution (Reagent A + B) that chemically disrupts the cell membrane and other structures to release intracellular contents. When used with the Countleader FL 100 and its dedicated analysis method (Viability-(A and B)), accurate cell counting on microcarriers is achieved.

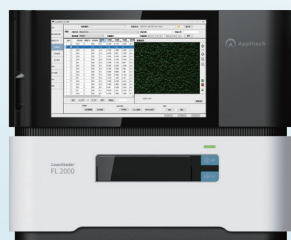
- ✓ Gentle lysis reduces issues caused by incomplete trypsin digestion and cell damage
- ✓ AO/PI fluorescence staining enables accurate cell counting without interference from microcarriers
- ✓ Simple one-step procedure provides viability, live cell concentration, and total cell concentration



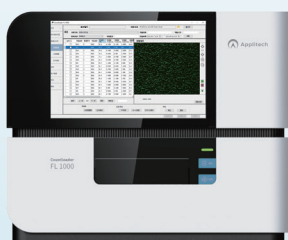
Countleader FL 100 Technical Specifications

Detection Mode	AO/PI
Fluorescence Mode	Ex/Em: 475 nm/525 nm; Ex/Em: 560/610 nm
Cell Viability Range	0-100%
Cell Diameter Range	2-80 μ m
Cell Concentration Range	5E4-3E7 cells/mL
Optimal Cell Concentration	5E5-1.5E7 cells/mL
Throughput	8
Sample Volume	\leq 15 μ L
Analysis Time	3-4 min/ 8 samples
Detection Accuracy	CV \leq 5% (optimal range)
Data Export Formats	PDF. Excel. TIFF
Analysis Parameters	Live cell concentration, dead cell concentration, total cell concentration, cell viability, cell diameter, cell aggregation ratio, fluorescent cell image, fluorescence signal intensity scatter plot
Camera Specifications	3072 \times 2048 resolution (6 MP CMOS)
Dimensions	22cm *28cm *31cm (W \times D \times H)
Weight	9kg

Countleader Cell Counter Series



Countleader FL 2000



Countleader FL 1000



Countleader FL 100



Countleader BF 100

Model	Consumable	Throughput	Analysis Method
Countleader BF 100	FL8-slides	8	Trypan Blue
Countleader FL 100	FL8-slides	8	AOPI
Countleader FL 1000	FL8-slides	8	Trypan Blue / AOPI
Countleader FL 2000	FL24-plate FL8-slides	24/8	Trypan Blue / AOPI



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