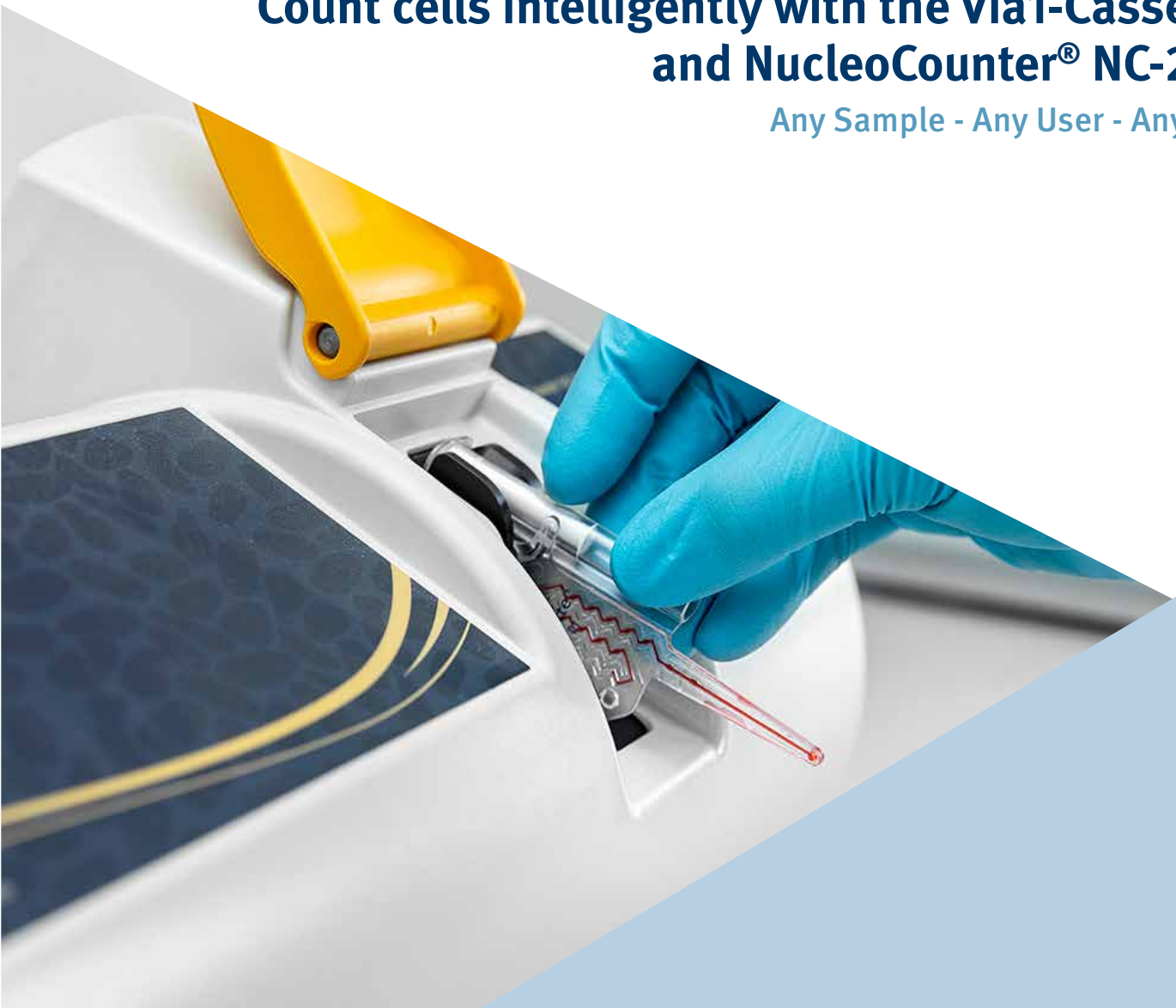
chemometec

Count cells intelligently with the Via1-Cassette™ and NucleoCounter® NC-200™

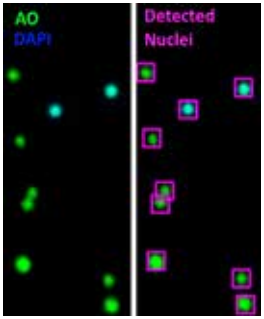
Any Sample - Any User - Anywhere



The NucleoCounter®

The NucleoCounter® is the most precise cell counter in the life science market. It uses the disposable Via1-Cassette™ to combine sampling, staining and counting into one simple process that conveniently increases precision.

We attribute the NucleoCounter® instrument's enormous success to its unique cell counting method. The NucleoCounter® uses the Via1-Cassette™, which automatically stains the sample with fluorescent nuclear dyes to accurately detect individual live and dead cells despite clumps, beads, or low viability. Together with a useful GMP software package, this counting procedure has placed the NucleoCounter® as the leading cell counting method for companies working with cell therapeutics.



Accurate Cell Detection

NucleoCounting counts cells by detecting nuclei using two fluorescent dyes pre-loaded in the Via1-Cassette™. Acridine Orange (AO) stains all cells green while DAPI stains dead cells blue.

A sophisticated image analysis algorithm acquires and analyzes a fluorescent image of the cells, recording their intensity and size.

Detecting nuclei rather than whole cells leaves out particles not containing DNA from the analysis. This allows the NucleoCounter® to accurately detect individual cells in samples containing aggregates or debris, improving the reliability of the cell count.

Supported Sample Types

- Primary cell cultures
- Cultures with low viability
- Whole blood samples
- Adipose-derived MSCs

- Microcarrier cultures
- Cell/magnetic bead mixtures

- Differentiated ES cells
- 3D cultures
- Epithelial cells

Precise Cell Counting

The Via1-Cassette™ is our keystone technology for achieving highly precise cell counts. It combines cell sampling, staining, and counting chamber loading into one consistent workflow. Each Via1-Cassette™ has a dot code indicating the exact volume of the counting chamber. The dot code is read by the NucleoCounter® when it calculates the cell concentration.

The NucleoCounter® uses fixed focus optics for image acquisition, eliminating dependence on manual or auto-focusing steps in the cell counting workflow. Together, the Via1-Cassette™ and the NucleoCounter® eliminate several important sources of variation, which increases the overall precision and reliability of the cell count.

NucleoCounting

$$\text{Variation}_{\text{total}} = \cancel{\text{Variation}}_{\text{counting chamber}} + \cancel{\text{Variation}}_{\text{sample processing}} + \cancel{\text{Variation}}_{\text{sample size}} + \cancel{\text{Variation}}_{\text{focusing}} + \text{Variation}_{\text{other}}$$

Conventional Counting

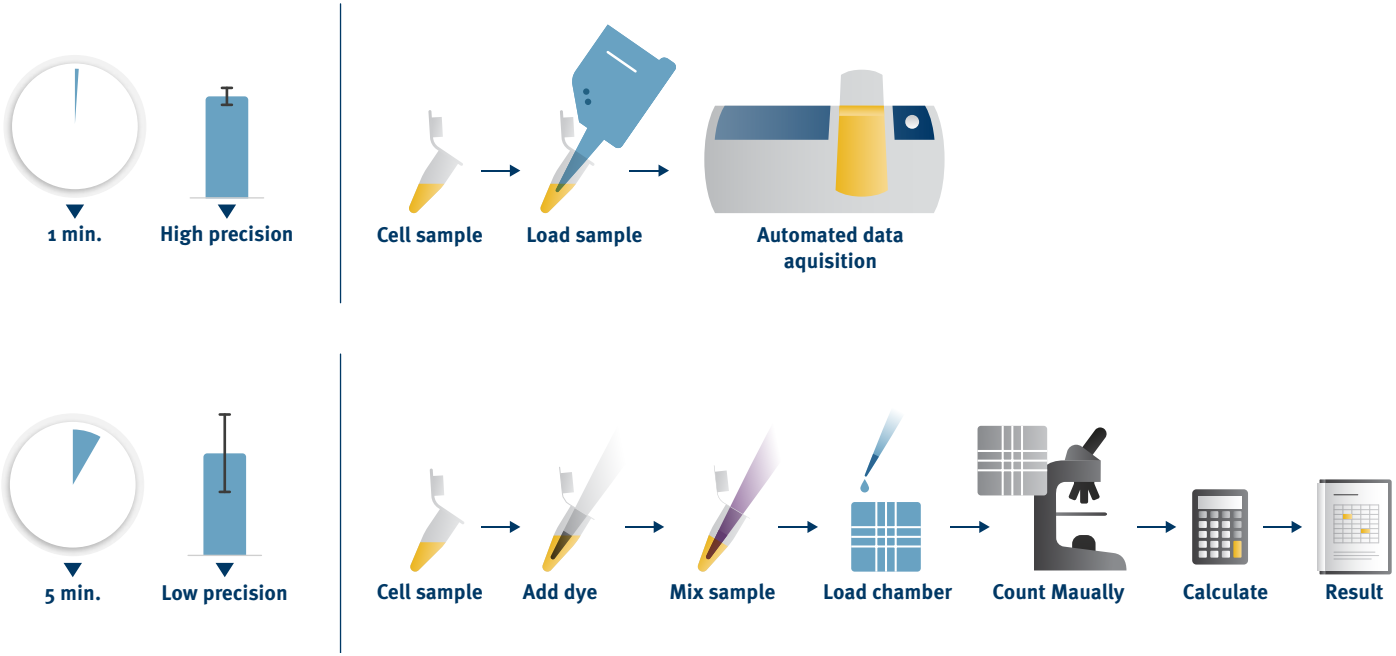
$$\text{Variation}_{\text{total}} = \text{Variation}_{\text{counting chamber}} + \text{Variation}_{\text{sample processing}} + \text{Variation}_{\text{sample size}} + \text{Variation}_{\text{focusing}} + \text{Variation}_{\text{other}}$$

Streamlined Cell Counting

NucleoCounter® instruments are designed for production environments. Counting cells is a simple two-step process that greatly reduces human error and ensures consistent results between operators.

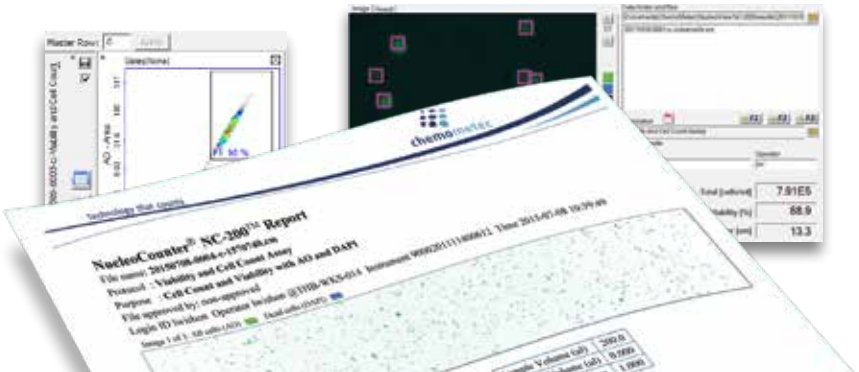
1) Press the Via1-Cassette™ piston to load sample.
2) Place the Via1-Cassette™ in the NucleoCounter® and press “Run”.

The Via1-Cassette™ and NucleoCounter® eliminate several steps present in conventional cell counting, minimizing variation among users.



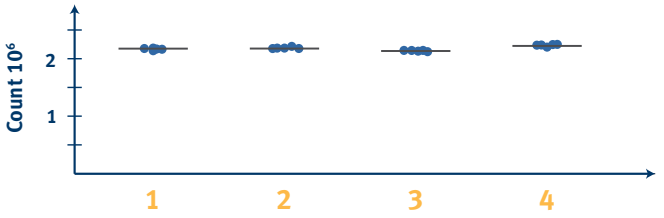
Easy Monitoring with Reporting and Approval Tools

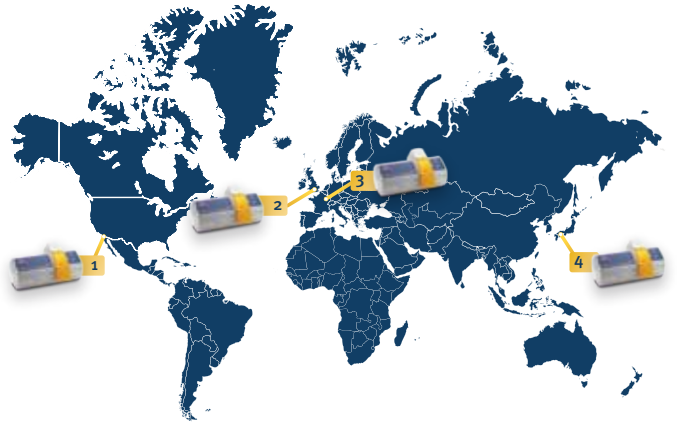
The NucleoView® software automatically generates detailed PDF reports, allowing supervisors to monitor and approve counting and viability results. These reports also provide cell size and aggregation statistics, complete with diagrams that reveal cell sample deviation.



Consistency

All NucleoCounter® instruments count the same regardless of location or production date. After assembly each instrument is calibrated against a master instrument, followed by testing and QC release.





Ideal for Cleanrooms

The NucleoCounter® is an ideal fixture in cleanroom environments. Its fanless design and smooth, easily cleaned surface eliminate contamination risks without compromising performance.

ChemoMetec reagents are also conveniently packaged to accommodate easy transfer into a cleanroom.

21 CFR PART 11 READY

NucleoCounter® Designed for GMP

21 CFR Part 11

NucleoCounter® NC-200™ data is saved locally or on a network in a secure file format. The NucleoView™ software also features a 21 CFR Part 11 module that allows implementation of electronic record keeping, electronic signatures, and administrative rights to maintain paperless record systems under cGMP guidelines.

This makes the NucleoCounter® system perfect for production settings.

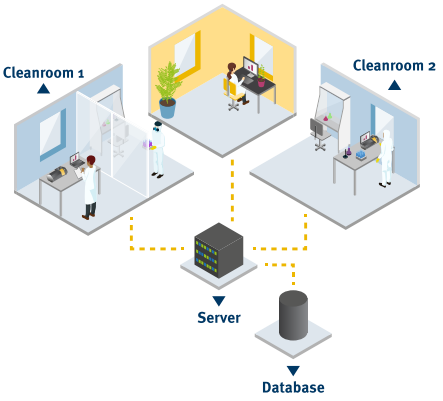
Widely used in GMP Sites

Most of our clients use NucleoCounter® instruments for advanced applications such as:

- Cell therapy
- Bioprocessing
- Vaccine production
- Cell biology research

The extensive due diligence done by these companies bears witness to the NucleoCounter® instrument's performance in QC and production in GMP facilities.

Implementing a NucleoCounter® early in development ensures that your lab's cell counting remains consistent and objective at every step of the development process.



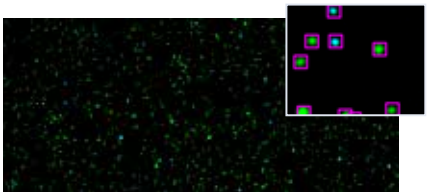
The Via1-Cassette™

The Via1-Cassette™ is designed with a number of features that combine cell sampling, staining, and loading into one workflow. Simply insert the Via1-Cassette™ into your cell sample and press the plunger to prep your cells.

The Counting Chamber

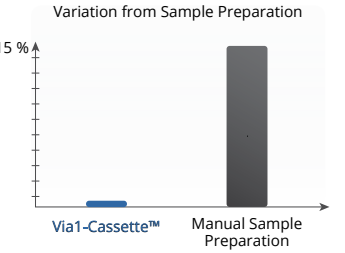
This counting chamber is automatically loaded with stained cells. Once it is inserted into the NucleoCounter®, the instrument's fluorescence microscope acquires a green and blue image for detecting live and dead cells.

The large counting chamber, which corresponds to 14 fields in a traditional hemocytometer, ensures high statistical robustness when the software calculates the cell concentration.



Integrated Pipette

The integrated piston and pipette tip of the Via1-Cassette™ reduce variation by simplifying the loading procedure and eliminating operator bias.



Piston

Pressing the piston creates a vacuum that pulls the cell sample into the cassette's cell staining channels.

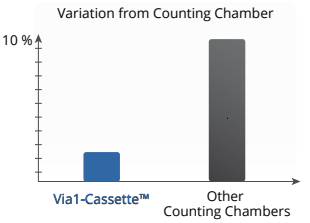
Pipette Tip

The Via1-Cassette™ is designed for micro-centrifuge tubes and requires only 200 µL of cell sample.

Calibration Dot Code

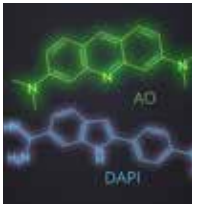
The exact counting chamber volume of each individual Via1-Cassette™ is measured and translated into a dot code, which is printed on the cassette during production.

This dot code relays the exact counting chamber volume to the software, ensuring optimal precision when the cell concentration is calculated.



Cell Staining channels

These staining channels are pre-loaded with dried Acridine Orange and DAPI dyes. After sample loading, the dyes dissolve and immediately stain the nuclei of the live and dead cells.
The channels ensure consistent cell staining and prevent lab professionals from coming into contact with carcinogenic substances.



Our first cell counters were designed for the dairy and veterinary markets. The NucleoCounter® NC-100™ was launched in 2001 as our first product designed for the life science market. Now our NucleoCounter® NC-200™ and NucleoCounter® NC-3000™ are embraced by most of the world's leading life science companies and research institutions.

Today we continue to simplify complex analytical processes and enhance our customers' research, production, and quality control practices with our unique technology platform. Our customers range from GMP-focused research facilities and individual academic laboratories to some of the biggest names in biotech and pharmaceuticals.

ChemoMetec is listed on Nasdaq OMX (CHEMM).

Application Support & Training from Our Scientific Staff

ChemoMetec is fully committed to the success and satisfaction of our customers. We offer training, application support and dedicated field service teams to ensure our customers achieve optimal instrument performance and the best quality results continuously.

Our world-class service supports you in NucleoCounter® NC-200™ product installation, future upgrades and application development. Hands-on training is available with the purchase of every NucleoCounter® NC-200™.

ChemoMetec Field Application Scientists are located around the world to provide both on-location and remote assistance and advice.

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