

**Bring life to cell based assays.
Live cell kinetic and motility
experiments yield a deeper
understanding of cell functions.
Such capability is a powerful tool
for cell biology research, functional
genomics, pharmacokinetics,
and toxicology.**

Thermo Scientific Cellomics® ArrayScan® VTI Live Cell Module



External control unit for Live Cell Chamber

Robust Module for Full Live-Cell HCS

Known for its robust imaging analysis and informatics capabilities, the Thermo Scientific Cellomics ArrayScan VTI HCS Reader offers complete quantitative, kinetic, live-cell imaging and analysis through the addition of the Live Cell Module. Scientists can study the dynamics of intracellular molecular interactions and cell motion in an environment similar to that of a tissue culture incubator. The Live Cell Module offers full control of temperature, CO₂ and added humidity to maintain cell health and viability, ensuring more reliable results.

Highlights

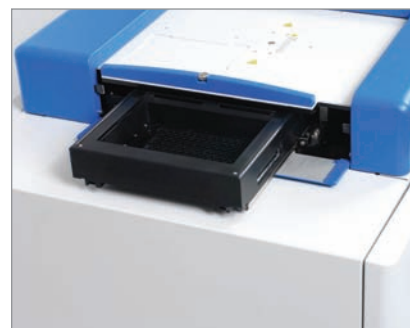
- Optional module that can be installed on a new or existing ArrayScan VTI HCS Reader
- Complete environmental control with full reporting of CO₂ and temperature over the defined time course
- Compatible with all Thermo Scientific Cellomics BioApplication image analysis modules
- Proprietary cell tracking algorithm monitors individual cells over seconds, minutes, hours or days
- Powerful kinetic analysis software provides numerous motility and kinetic calculations at the cell and well levels
- Validated performance

Simplified Scheduling and Powerful Analysis

Simple scheduling allows flexible definition of the scan area, time course and sampling rate. The ArrayScan VTI software automatically tracks the position of each cell over time and computes motility measurements such as persistence, displacement, velocity, acceleration and directionality on a cell-by-cell or well-by-well basis. In addition, the software has the ability to produce kinetic calculations such as curve fits and rate constants for any BioApplication measurement.

Additional Live Cell Chamber Features

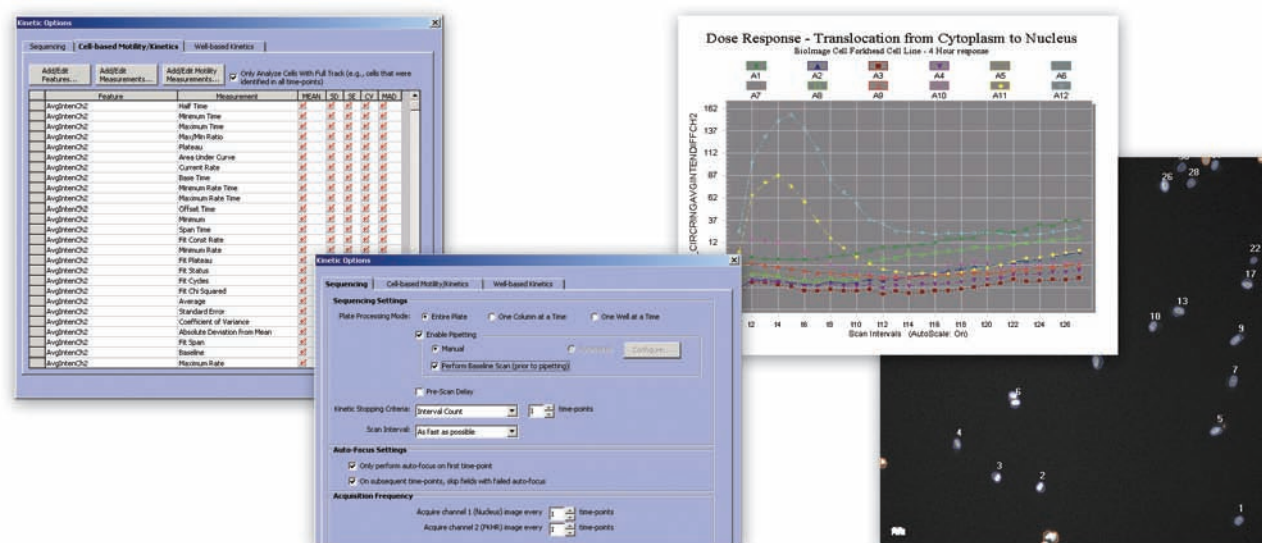
- Sub-second imaging frequency
- Kinetic movie maker
- Long-term cell viability, comparable to an incubator
- Field-upgradable for current ArrayScan VTI HCS Readers



Live Cell Chamber

Cell Tracking

The most biologically relevant way to perform live-cell HCS is to track each individual cell over your desired time course. Quantitative measurements can be made on cells that are fully tracked throughout the time course.



Thermo Scientific Cellomics ArrayScan VTI Live Cell Module Specifications

Temperature (Software Controlled)	Ambient to 45°C. Temperature variation is less than 0.5°C over 48 hours. Temperature recorded and reported through the software at each time point.
CO₂ Mixed Gas (Software Controlled)	0-10% saturation with less than 0.1% variation measured across a plate. CO ₂ saturation recorded and reported through the software at each time point.
Relative Humidity	Maintains greater than 90% relative humidity.
External Control Module	30.5cm x 43.2cm x 48.3cm (W x D x H) control unit for temperature and CO ₂ control.
Software	Proprietary cell tracking. Reports measurements for each cell at each time point. Analysis methods to compute kinetic and motility measurements.

Product Name	Catalog Number	Description
Thermo Scientific Cellomics Live Cell Module	N01-0014	Environmental controls enable live cell imaging and analysis.
Thermo Scientific Cellomics ArrayScan VTI HCS Reader	N01-0002A (115/100V) N01-0002B (230V)	Automated fluorescence microscopic imaging system designed for high-content screening and analysis. The instrument features optics by Carl Zeiss®, broad white-light source, 12-bit cooled CCD camera, and options for plate handling, Brightfield, liquid handling and environmental control.
Thermo Scientific Cellomics ArrayScan VTI Liquid Handling Module	N01-0117	An automated, single tip, liquid handling robot module for the ArrayScan VTI using disposable tips (standard and liquid level sensing) to both aspirate and dispense from multiple deck and live cell chamber locations. Enables fast live cell assays such as calcium flux.

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BRO-LACI-LIVE-0608