Technology that counts

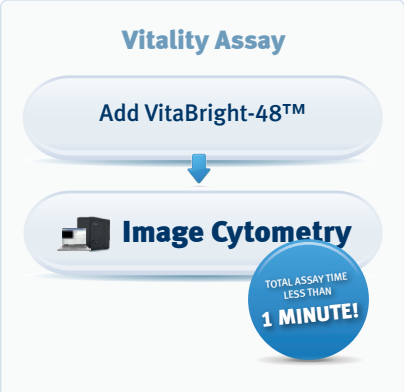
chemometec

NC-250™ Vitality Assay

– For easy detection of changes in the cellular level of reduced thiols

The vitality assay provides easy determination of the level of thiols, such as reduced glutathione (GSH). GSH is the most abundant low molecular weight thiol in animal cells; thus its oxidation status largely determines the thiol-disulfide status of the cell by thiol-disulfide interchange reactions.

GSH is involved in many cellular processes including quenching of free radicals, drug detoxification, cell signaling, and cell proliferation. The decrease in cellular GSH concentration is an early hallmark in the progression of cell death in response to different apoptotic stimuli in many cell types.



Key Benefits

of the NC-250™ Vitality Assay

Automated detection of changes in the level of reduced thiols!

- ✓ Extremely easy assay for evaluation of cellular health, oxidative stress and indirect detection of apoptosis
- ✓ Total assay time less than one minute
- ✓ Acquisition and analysis at the single cell level in one simple step
- ✓ User friendly protocol with predefined settings
- ✓ PlotManager for superior data presentation
- ✓ Automated PDF reports
- ✓ Export of data in FCS/ACS formats

The NucleoCounter® NC-250™

- Fast and precise!

Vaccine Production | Micro-Carriers | Stem Cells | Cancer Cells | CEF Cells | Toxicology | PBMC | *and more*

Principle: NC-250™ Vitality Assay

Scatter plots and histograms showing thiol level distribution (VB-48™ intensity) in the cell population are automatically displayed after analysis.

By comparing the VB-48™ intensity of treated cells and control cells the fraction of cells with low vitality (e.g. apoptotic or stressed cells) can be determined.

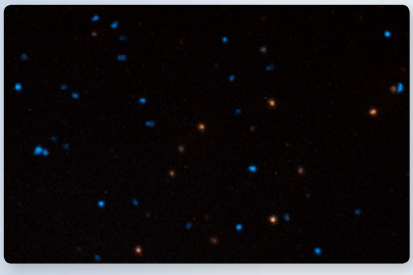
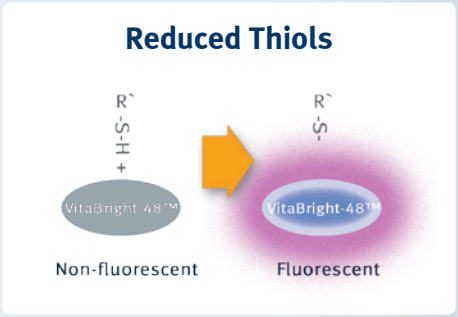
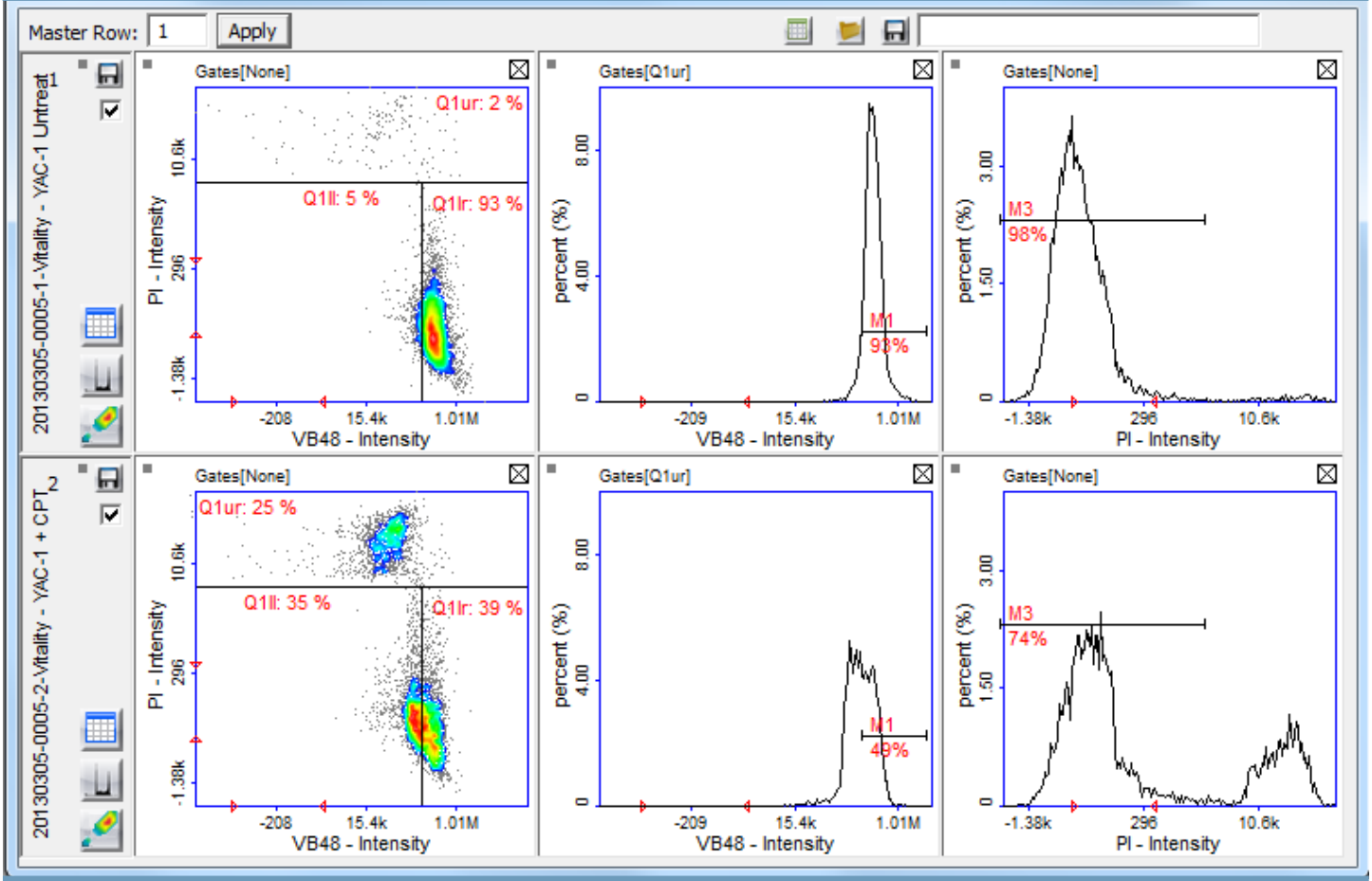


Image acquired with the NucleoCounter® NC-250™ for the Vitality Assay

Automated PDF reports



Results: Presented in PlotManager



Hybridoma cells were grown in the absence (upper row) or in the presence (lower row) of etoposide. Cells were stained with VB-48™, Acridine Orange (AO) and Propidium Iodide (PI) and analysed using the Vitality Assay and a NucleoCounter® NC-250™. Scatter plots and histograms were obtained from the NucleoView™ NC-250 software. Polygons and markers in the displayed plots were used to demarcate the various cell populations. In this example etoposide causes a decrease in the level thiols in a subpopulation (cells with low VB-48™ intensity)

For more information, please visit **www.chemometec.com/NC-250**

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