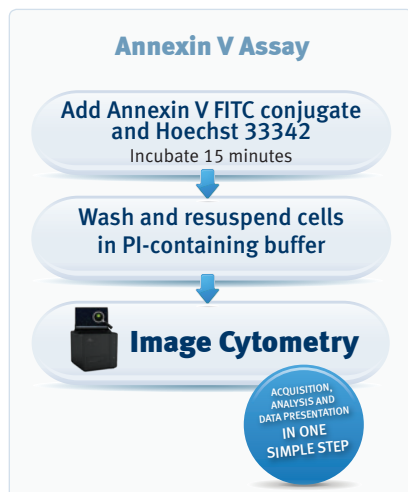


# NC-3000™ Annexin V Assay

– For easy estimation of apoptosis

Translocalisation of phosphatidylserine (PS) from the inner to the outer membrane layer happens early in apoptosis and precedes other apoptotic events such as loss of membrane integrity and DNA fragmentation. Annexins are group of cellular proteins that bind to phospholipids in a calcium-dependent manner. A member of this group, Annexin V, has proven to be a useful tool in detecting apoptotic cells since it has a high affinity for PS.

Using fluorescently labeled Annexin V the externalization of PS can easily be detected. Annexin V may also bind to PS on late apoptotic and necrotic cells but as the membrane integrity on these cells has been lost, these cells can be distinguished from early apoptotic cells by the use of the impermeant dye propidium iodide.



## Key Benefits

of the NC-3000™ Annexin V Assay

### Acquisition, analysis and data presentation in one simple step!

- ✓ Information about both early apoptotic and late apoptotic/necrotic cells provided
- ✓ Fast automated single cell analysis
- ✓ User friendly protocol with predefined settings
- ✓ Standardized results – even with different users
- ✓ No calibration required
- ✓ PlotManager for superior data
- ✓ Automated PDF reports
- ✓ Export of data in FCS/ACS formats



FIXED ASSAYS



HIGH SPEED CELL COUNT



FAST ANALYSIS



VISUAL INSPECTION



NO RINSING



NO CLOGGING



NO CALIBRATION



NO MAINTENANCE



LEARN MORE

## Principle: NC-3000™ Annexin V Assay

Using fluorescence microscopy and image analysis the NucleoCounter® NC-3000™ system automates detection of apoptotic cells based on phosphatidylserine externalization. Cells are stained with Hoechst 33342, PI and FITC labeled Annexin V.

Hoechst 33342 stains the total cell population, while Annexin V stains apoptotic and necrotic cells. Early apoptotic cells exclude PI, while late stage apoptotic and necrotic cells stain positively for both Annexin V and PI.

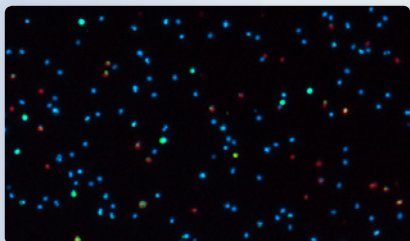
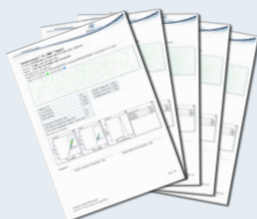
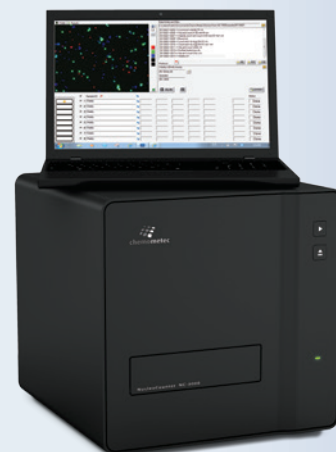


Image acquired with the NucleoCounter® NC-3000™ for the NC-3000™ Annexin V Assay

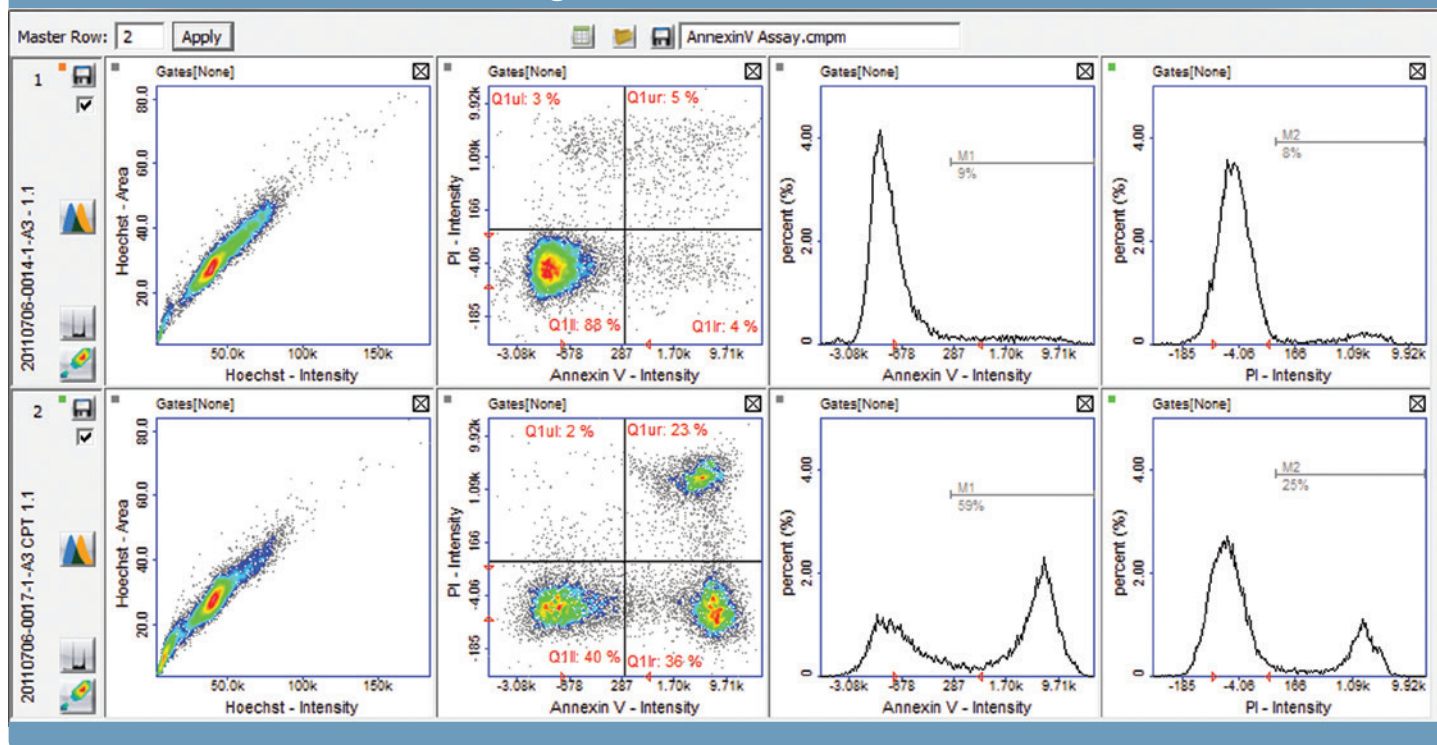


Automated PDF reports



The NucleoCounter® NC-3000™  
- Next generation cell analysis

## Results: Presented in PlotManager



Jurkat cells were grown in the absence (upper row) or in the presence (lower row) of camptothecin (CPT). Cells were stained with Hoechst-33342, Annexin V FITC conjugate and Propidium Iodide (PI) and analysed using the Annexin V Assay and a NucleoCounter® NC-3000™. Scatter plots and histograms were obtained from the NucleoView™ NC-3000™ software. Quadrants and markers in the displayed plots were used to demarcate the various cell populations. In this example camptothecin causes a dramatic increase of early apoptotic cells (Annexin V positive and PI negative cells)



For more information, please visit [www.chemometec.com/NC-3000](http://www.chemometec.com/NC-3000)