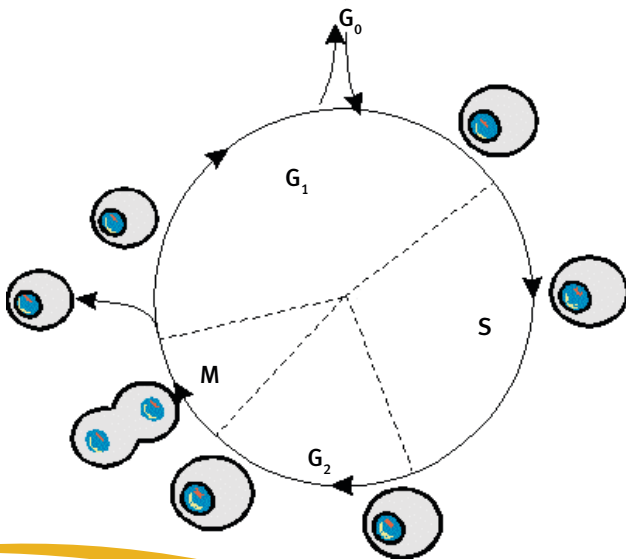


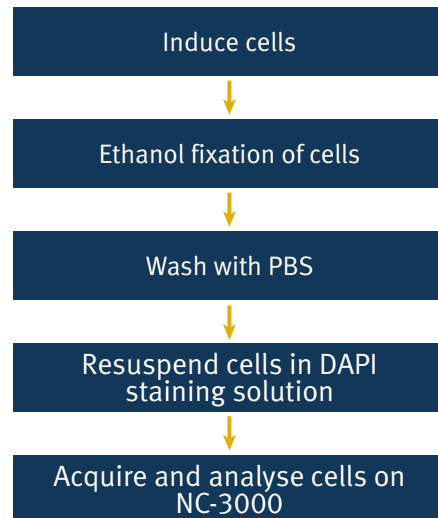
NC-3000 Cell Cycle Assay

– For easy measurement of G_1/G_0 , S and G_2/M cell cycle phases

The cell cycle represents the most fundamental and important process in eukaryotic cells and is an ordered set of events, culminating in cell growth and division into two daughter cells. In a given population, cells will be distributed among three major phases of the cell cycle: G_1/G_0 phase (one set of paired chromosomes per cell), S phase (DNA synthesis with variable amount of DNA), and G_2/M phase (two sets of paired chromosomes per cell, prior to cell division).



NC-3000 Cell Cycle Assay

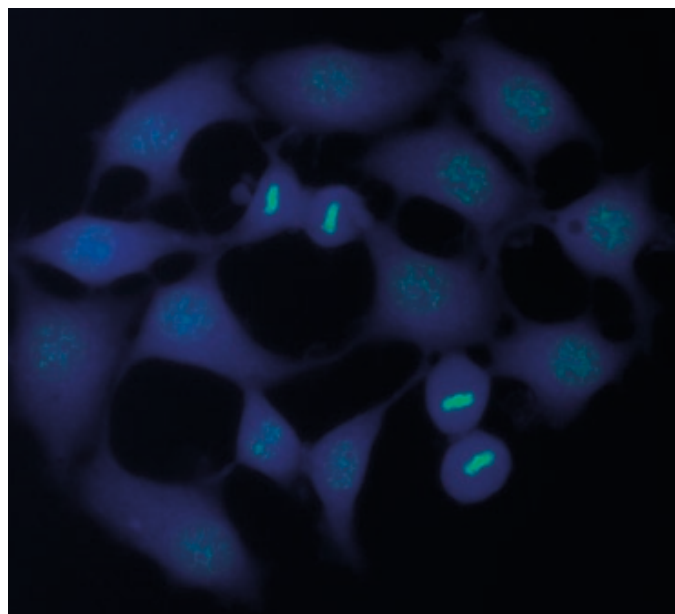


Key benefits

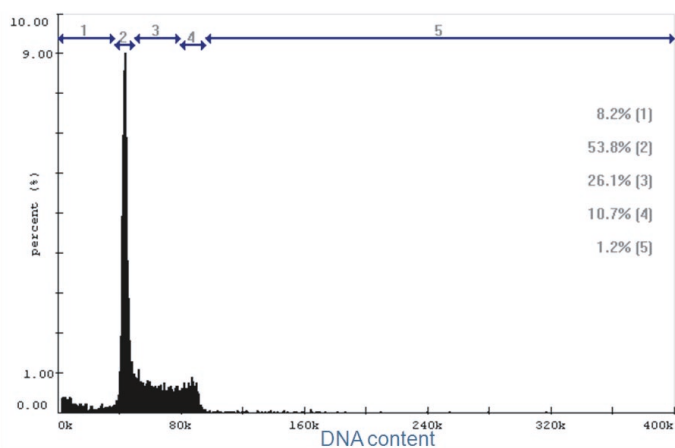
- Fast and easy measurement of cell cycle phases at the single cell level
- Extreme ease of use
- Acquisition and analysis in one simple step
- Analysis time less than 20 seconds
- User friendly protocol with predefined settings
- Standardized results – even with different users
- Provides cell counts and population percentages
- No RNase treatment required
- No calibration required

Principle

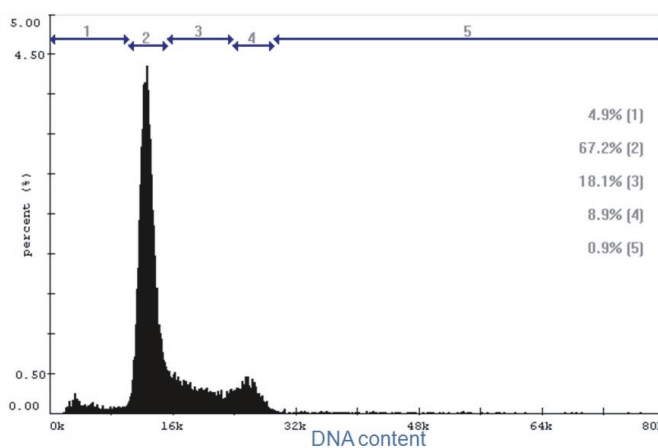
Using fluorescence microscopy and image analysis, the NC-3000 system automates DNA content quantification and hence, measurements of cell cycle stages. The NC-3000 Cell Cycle Assay uses the nuclear stain, **DAPI**, to measure DNA content. DAPI binds specifically to double-stranded DNA and, accordingly, there is no requirement for removing RNA prior to DNA content measurements. This is a prerequisite for other dyes commonly used for measurements of cell cycle phases, such as propidium iodide. After DAPI staining of fixed cells the sample is analyzed using the NC-3000 system and cellular fluorescence is quantified and DNA content histograms are displayed on PC screen. Markers in the displayed histograms can be used to demarcate cells in the different cells cycle stages.



A MCF-7 cells



B Jurkat cells



Cell cycle profiles of MCF-7 (**A**) and Jurkat (**B**) cells. Vegetatively growing cells were fixed with 70% ethanol, washed with PBS, stained with DAPI staining solution and analysed on NC-3000 using the Cell Cycle-DAPI protocol. Markers in the displayed histograms were used to demarcate cells in the different cells cycle phases. In these examples G_1/G_0 cells represent the majority of the total population. E.g. for the MCF-7 sample approximately 54% of the cells are in the G_1/G_0 stage of the cell cycle.