

# NUCLEAR-ID™ GREEN CELL CYCLE ANALYSIS KIT

**Nuclear-ID™ Green Cell Cycle Analysis Kit**

ENZ-51014

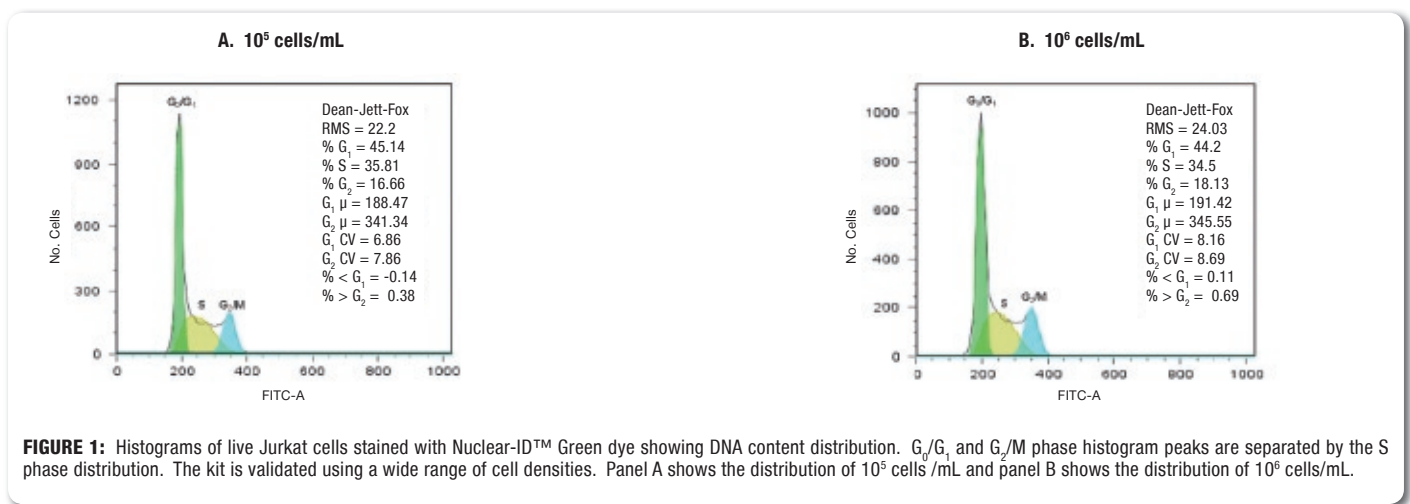
100 Reactions



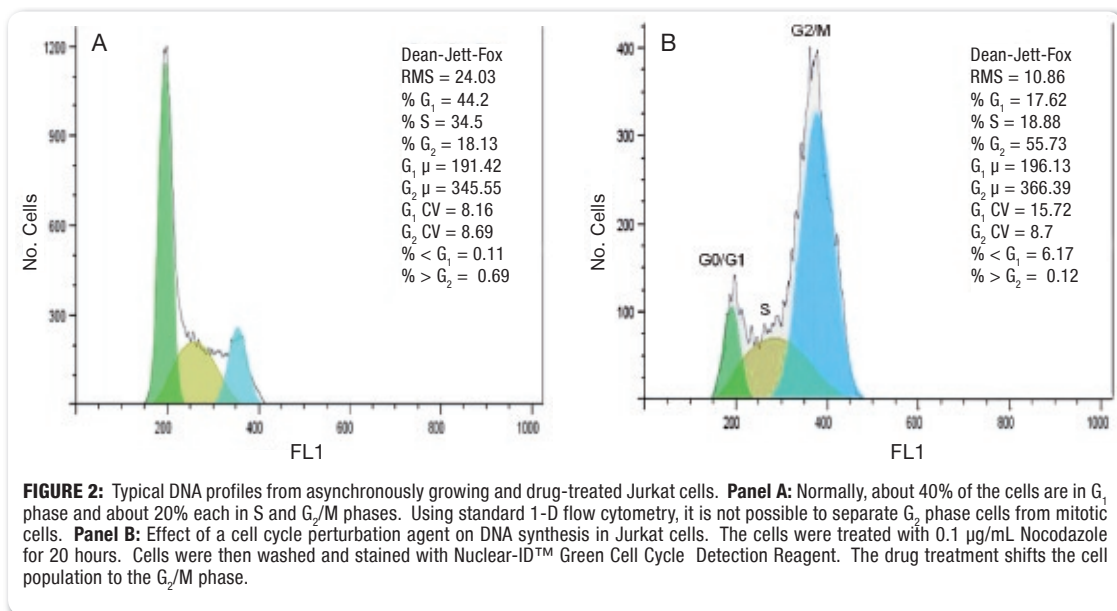
- Provides DNA content information in live, permeabilized or fixed cells
- Monitors changes in cell cycle dynamics arising from drug treatment or other perturbations
- Excited using common 488 nm laser source, generating a green ~530 nm emission
- Easy staining protocol, simply add the dye and analyze by flow cytometry
- Performance validated using a wide range of cell densities
- Stringently manufactured, to control and eliminate non-specific assay artifacts

Enzo Life Sciences' Nuclear-ID™ Green Cell Cycle Analysis Kit provides a convenient approach for studying the induction and inhibition of cell cycle progression by flow cytometry. The kit is suitable for (1) determining the percentage of cells in a given sample that are in  $G_0/G_1$ , S and  $G_2/M$  phases, as well as to quantify cells in the sub- $G_1$  phase, and (2) DNA studies in live, permeabilized and fixed cells, using normal cell lines and cell lines exhibiting multiple ploidy levels.

A control cell cycle perturbation agent, Nocodazole, is provided for monitoring changes in cell cycle dynamics. Potential applications for live-cell studies are in the determination of cellular DNA content and cell cycle distribution for the detection of variations in growth patterns, for monitoring apoptosis, and for evaluating tumor cell behavior and suppressor gene mechanisms.



**FIGURE 1:** Histograms of live Jurkat cells stained with Nuclear-ID™ Green dye showing DNA content distribution.  $G_0/G_1$  and  $G_2/M$  phase histogram peaks are separated by the S phase distribution. The kit is validated using a wide range of cell densities. Panel A shows the distribution of 10<sup>5</sup> cells/mL and panel B shows the distribution of 10<sup>6</sup> cells/mL.



**FIGURE 2:** Typical DNA profiles from asynchronously growing and drug-treated Jurkat cells. **Panel A:** Normally, about 40% of the cells are in G<sub>1</sub> phase and about 20% each in S and G<sub>2</sub>/M phases. Using standard 1-D flow cytometry, it is not possible to separate G<sub>2</sub> phase cells from mitotic cells. **Panel B:** Effect of a cell cycle perturbation agent on DNA synthesis in Jurkat cells. The cells were treated with 0.1 μg/mL Nocardazole for 20 hours. Cells were then washed and stained with Nuclear-ID™ Green Cell Cycle Detection Reagent. The drug treatment shifts the cell population to the G<sub>2</sub>/M phase.

## Related Products

Product	Prod. No.	Size
<b>GFP-Certified™ Nuclear-ID™ Red Cell Cycle Analysis Kit</b>	ENZ-51008	100 Reactions
<b>GFP-Certified™ Lyso-ID™ Red Lysosomal Detection Kit</b>	ENZ-51005	500 Reactions
<b>Total Nuclear-ID™ Green/Red Nucleolar/Nuclear Detection Kit</b>	ENZ-51006	500 Reactions
<b>GFP-Certified™ Mito-ID™ Red Mitochondrial Detection Kit</b>	ENZ-51007	500 Reactions
<b>DAPI (Ultra Pure)</b>	ENZ-52404	100 mg
<b>Hoechst 33258 (Ultra Pure)</b>	ENZ-52402	100 mg
<b>Hoechst 33342 (Ultra Pure)</b>	ENZ-52401	100 mg
<b>Propidium Iodide (Ultra Pure)</b>	ENZ-52403	100 mg

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