

NUCLEAR-ID™ RED CELL CYCLE ANALYSIS KIT

GFP-Certified™ Nuclear-ID™ Red Cell Cycle Analysis Kit

ENZ-51008

100 Reactions

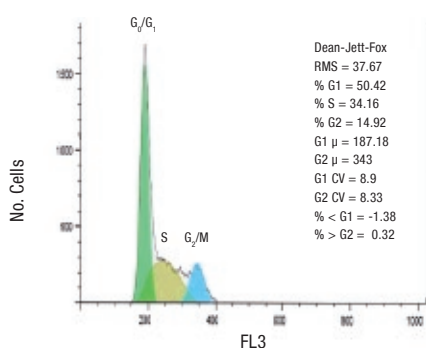
HIGHLIGHT

- Provides DNA content information in live, permeabilized or fixed cells
- Monitors changes in cell cycle dynamics arising from drug treatment or other perturbations
- True multiplexed capability with GFP and other green fluorescent probes used in immunophenotypic analyses
- Excited using common 488 nm and 633 nm laser sources, generating a far red 640 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' GFP-Certified™ Nuclear-ID™ Red 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 for 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.

A. Nuclear-ID™ Red Stain at 488 nm excitation



B. Nuclear-ID™ Red Stain at 633 nm excitation

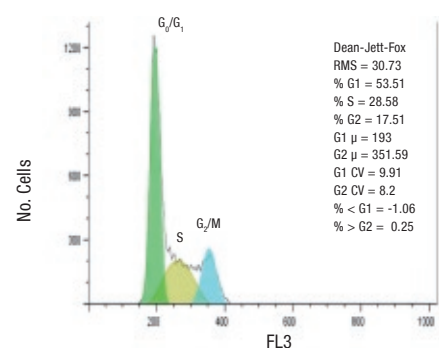


FIGURE 1: Histograms of live Jurkat cells stained with Nuclear-ID™ Red dye showing DNA content distribution. G_0/G_1 and G_2/M phase histogram peaks are separated by the S phase distribution. Panel A shows the distribution of this population of cells when 488 nm excitation was used and panel B shows the same population when 633 nm excitation was applied.

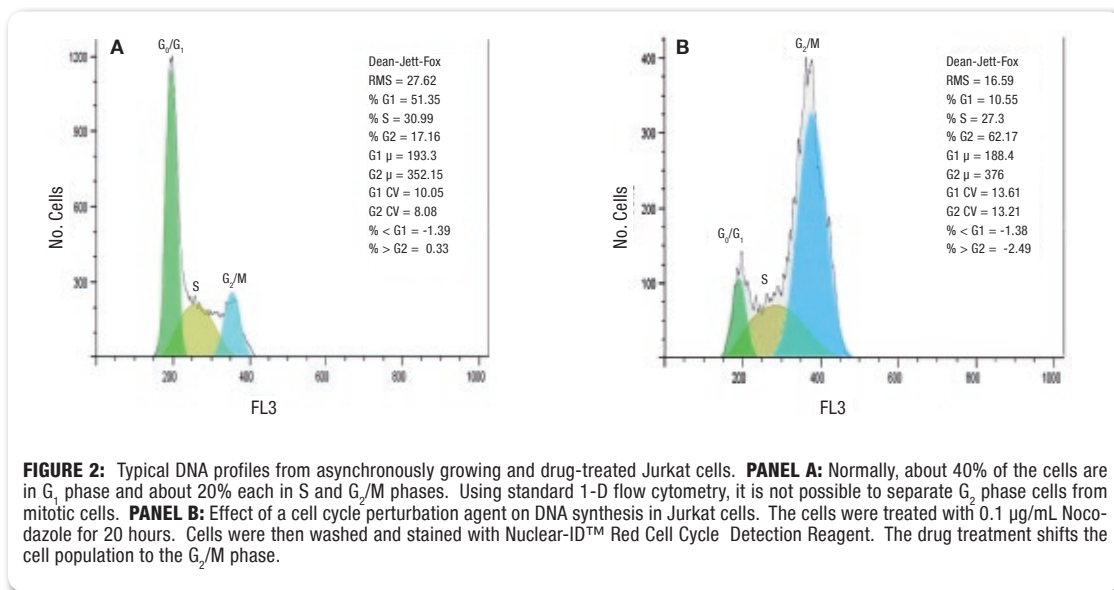


FIGURE 2: Typical DNA profiles from asynchronously growing and drug-treated Jurkat cells. **PANEL A:** Normally, about 40% of the cells are in G₁ phase and about 20% each in S and G₂/M phases. Using standard 1-D flow cytometry, it is not possible to separate G₂ phase cells from mitotic cells. **PANEL B:** Effect of a cell cycle perturbation agent on DNA synthesis in Jurkat cells. The cells were treated with 0.1 μ g/mL Nocodazole for 20 hours. Cells were then washed and stained with Nuclear-ID™ Red Cell Cycle Detection Reagent. The drug treatment shifts the cell population to the G₂/M phase.

Related Products

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

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