CYTO-ID® Autophagy Detection Kit

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A no-transfection quantitative assay for monitoring autophagy in live cells

CYTO-ID® Autophagy Detection Kit (10662-266 / 89165-926)

Autophagy is a stress-induced protective mechanism. Less active under basal conditions, the mechanism is utilized by eukaryotic cells through lysosome-mediated bulk degradation of cellular contents when subjected to certain hostile conditions such as nutrient depletion and chemical or environmental stress. The role of increased autophagic activity in the pathology of cancer, neurodegeneration, cardiovascular disease and diabetes has become widely recognized and commonly studied.

Key Features

- Rapid, specific and quantitative approach for monitoring autophagy in live cells
- 488 nm laser excitable dye is compatible with a wide range of instruments, including conventional flow cytometers
- Validated under a wide range of conditions and with small molecule modulators known to influence autophagy pathways
- Stringently manufactured, to control and eliminate non-specific assay artifacts
- Optimized protocols for both fluorescence microscopy, flow cytometry and microplate applications

Profile Autophagy without Transfection

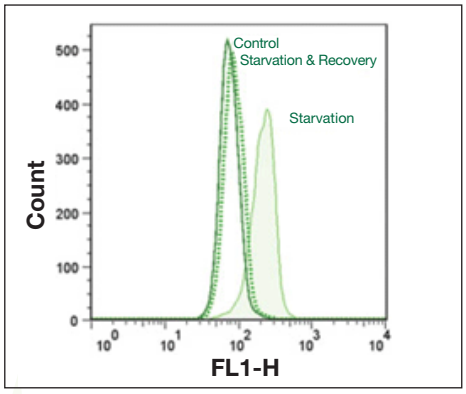

Figure 1: The CYTO-ID® Autophagy Detection Kit specifically labels autophagic vacuoles independent of LC3 protein and eliminates the need for transfection. HeLa cells were subjected to starvation and recovery and then labeled with CYTO-ID® Green detection reagent.

Visualization of Autophagic Vacuole Accumulation

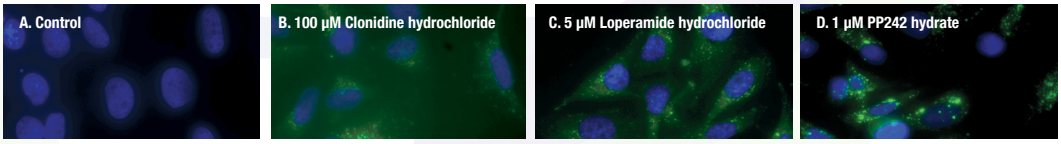

Figure 2: Autophagic vacuole accumulation and flux are both detected by CYTO-ID® Autophagy Green dye as observed by fluorescence microscopy. HeLa cells were mock-induced with 0.2% DMSO (A) or induced with 100 µM Clonidine hydrochloride (B) or 5 µM Loperamide hydrochloride (C) or 1 µM PP242 hydrate (D) for 12 hours at 37°C. After treatment, cells were incubated with CYTO-ID® Green Detection Reagent for 10 min at 37°C and then washed with assay buffer. Nuclei were counter-stained in blue with Hoechst 33342 dye.

Platforms supported:

Microscopy | Flow Cytometry | Microplate

RELATED PRODUCTS			
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