

# cytotoxicity

Cells exposed to cytotoxic compounds may produce a variety of reactions. If fatal injury occurs, the cells may necrosis, thus losing membrane integrity and dying rapidly, or the cells may experience other cell death pathways, such as apoptosis or autophagy. The cells with sub lethal injury may stop active growth and cell division (reduced cell proliferation). The whole cell or subcellular components or organelles can be detected by single or multiple analysis of these functional responses. Common parameters for single or multiple analysis include superoxide induction, glutathione consumption, decrease or loss of mitochondrial membrane potential, and decrease of overall cell viability.

Cytotoxicity analysis is widely used in basic research and drug discovery to screen toxic compound library. Compounds that can produce cytotoxic reactions can be eliminated in subsequent screening; Alternatively, compounds targeting rapidly dividing cells are selected as candidate compounds for cancer treatment. Thermo Fisher Scientific can provide a variety of reagents and test kits for detecting various cytotoxicity.

## Cell viability test

Cell viability cell viability can be measured by a variety of parameters, such as cell population redox potential, cell membrane integrity or esterase activity. These parameters can provide different information of cell health

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status, and can be used alone or together as the basis for the determination of cell viability, cytotoxicity or drug titer.

#### Cell proliferation assay

Cell proliferation analysis is very important for cell growth, cell differentiation and cancer research. It is also often used to evaluate compound toxicity and tumor cell growth inhibition in drug development. Markers used to detect cell proliferation include average DNA content of cell population and cell metabolism. We can provide a series of detection reagents for detecting the total number of cells or living cells, or for labeling single-cell DNA synthesis.

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