CFSE Cell Division Assay Kit

Cat. No. Kit-0210 **Lot. No.** (See product label)

SPECIFICATION

Product Overview	CFSE Cell Division Assay Kit is a fluorescence-based method for tracing cell divisions.
Description	Cell proliferation is controlled by growth factors that bind to receptors on the cell surface, which in turn connect to signaling molecules. These molecules activate transcription factors which bind to DNA to turn on or off the production of proteins which result in cell division. Dysfunction of any step in this regulatory cascade causes abnormal cell proliferation, which underlies many human pathological conditions.The mechanisms underlying alterations in cell cycle progression are crucial to understanding many human diseases, most notably cancer. Carboxyfluorescein diacetate, succinimidyl ester (CFDA-SE) is a novel cell-tracing fluorescent dye used to examine the proliferative activity of cells by the labeling of a parent generation and the inheritance of the label by daughter generations. CFDA-SE diffuses into cells, where the acetate groups on the molecule are cleaved to yield a highly fluorescent derivative (CFSE) that is retained in the cell and can be detected by flow cytometry.Cell division results in sequential halving of fluorescence, and up to eight divisions can be monitored before the fluorescence is decreased to the background fluorescence of unstained cells.In addition, the stability of the CFSE labeling allows monitoring of cells over a period of a couple of weeks in vitro. Using this method, cells may be traced through successive generations without the use of radioactivity and complicated protocols. Since its first introduction in 1994, the flow cytometry analysis of CFSE-labeled cells has become the most informative experimental techniques for studying lymphocyte proliferation.

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Applications	The CFSE Cell Division Assay Kit provides an easy to use format for labeling and tracing cells through successive cell divisions which can be used to study the induction and inhibition of cell division in any in vitro model. The kit contains sufficient reagents for labeling and analyzing 100 cell samples by flow cytometry.CFSE can also be combined with any fluorochrome compatible with fluorescein for use in flow cytometry.
Usage	For research use only (RUO)
Storage	CFSE Stock Solution -20°CCell-Based Assay Buffer Tablet Room temperatureKit will arrive packaged as a -20°C kit. Once opened, store individual components as stated.This kit will perform as specified if stored as directed and used before the expiration date indicated on the outside of the box.
Kit Components	CFSE Stock Solution 3 vials/100 µlCell-Based Assay Buffer Tablet 4 tablets

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