CFDA-SE Cell Proliferation Assay Kit

Catalog #	Description
135-1201	**CFDA-SE Cell Proliferation Assay Kit**, 5 x 100 µg vials

For research purposes only.

Description

The CFDA-SE (5[6]-carboxyfluorescein diacetate succinimidyl ester) cell proliferation assay is packaged in convenient 100 µg vials. Simply reconstitute it with DMSO for use and avoid weighing and wasting reagents.

CFDA-SE is a cell-permeable reagent that is useful in measuring and tracking cell divisions. Upon entering a live cell, the acetate groups of CFDA-SE are cleaved by intracellular esterase to create the fluorescent carboxyfluorescein succinimidyl ester (CFSE) compound. CFSE reacts with free primary amines to create a stable, covalent bond and is retained in the cytosol of cells. As a cell divides, the fluorescence intensity of CFSE is successively halved with each division, which allows distinguishing each cell generation.

Chemical and Physical Properties

Molecular weight: 557.46
CAS number: 150347-59-4
Excitation maximum: 492 nm
Emission maximum: 517 nm

Excitation and emission wavelengths for CFDA-SE are shown in Figure 1.

Kit Contents and Storage

Follow the guidelines in Table 1 for storing kit components.

Table 1. Kit components and storage.

Kit Component	Quantity	Storage, ˚C
CFDA-SE	5 vials, 100 µg per vial	–20 Protect from light and moisture

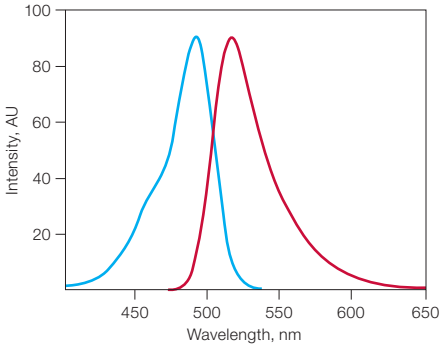

Fig. 1. CFDA-SE excitation/emission is 492/517 nm in 0.1 M NaOH. Excitation wavelength (—); emission wavelength (—). AU, absorbance unit.

Assay Protocol

Important: Thaw all components prior to use.

Note: The following protocol is a guideline and it should be modified for each experiment as needed.

1. Prepare a 200 µM stock solution by adding 892.5 µl of DMSO to a CFDA-SE vial and mix by vortexing.
2. Create a working solution (5–0.5 µM) by diluting the CFDA-SE stock solution from step 1 with your buffer of choice at pH 7 (Table 2).
3. Resuspend 1 x 10^6 cells of interest in 500 µl of the working solution.
4. Incubate the cells for 5–20 min at room temperature. Protect from light.
5. Centrifuge the sample and remove the supernatant.
6. Wash the cell pellet with 3 ml of your buffer of choice.
7. Resuspend the cells in 500 µl of fresh, prewarmed culture media.
8. Remove 200 µl to analyze for time zero.
9. Place the remaining cells in the appropriate conditions for cell proliferation.
10. Harvest the cells and stain them for other markers if desired.
11. Analyze or sort the cells using a flow cytometer or S3™ cell sorter with a 488 laser.

Table 2. Preparation of the CFDA-SE working solution.

Dilution Factor	Stock Volume, µl	Buffer Volume, µl	Final Volume, ml	Working Solution Concentration, µM
1:40	25	975	1	5
1:50	20	980	1	4
1:67	15	985	1	3
1:100	10	990	1	2
1:200	5	995	1	1
1:400	2.5	997.5	1	0.5

Related Products

CytoTrack™ cell proliferation assay kits are available in four distinct colors for easy multicolor cell analysis: blue, green, yellow, and red. Using a proprietary dye, the CytoTrack assays can easily resolve up to ten cell generations. Use Table 3 to select the appropriate CytoTrack kit to label cells.

Table 3. Ordering information for CytoTrack cell proliferation assay kits.

Catalog Number	Labeling Dye Description	Optimal Excitation Laser, nm
135-1202	CytoTrack Blue 403/454	405
135-1203	CytoTrack Green 511/525	488
135-1204	CytoTrack Yellow 542/556	532
135-1205	CytoTrack Red 628/643	632, 640

For more information, visit **www.bio-rad.com/cfdase**.

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