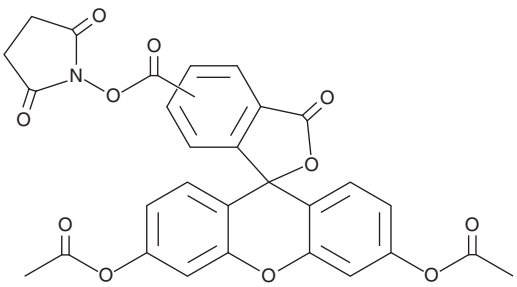
PRODUCT INFORMATION

CFDA-SE

Item No. 14456

CAS Registry No.:	150347-59-4
Formal Name:	3',6'-*bis*(acetyloxy)-3-oxo-2,5-dioxo-1-pyrrolidinyl ester-spiro[isobenzofuran-1(3H),9'-[9H]xanthene]-ar-carboxylic acid
Synonyms:	5(6)-Carboxyfluorescein diacetate succinimidyl ester, 5(6)-CFDA N-succinmidyl ester
MF:	$C_{29}H_{19}NO_{11}$
FW:	557.5
Purity:	≥95% (mixture of regioisomers)
Ex./Em. Max:	491/518 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

CFDA-SE is supplied as a crystalline solid. A stock solution may be made by dissolving the CFDA-SE in the solvent of choice. CFDA-SE is soluble in organic solvents such as DMSO and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of CFDA-SE in these solvents is approximately 20 and 30 mg/ml, respectively.

CFDA-SE is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, CFDA-SE should first be dissolved in DMF and then diluted with the aqueous buffer of choice. CFDA-SE has a solubility of approximately 0.25 mg/ml in a 1:3 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

CFDA-SE is a stable, cell-permeable dye that consists of a fluorescein molecule containing two acetate moieties and a succinimidyl ester (SE) functional group.[1] Upon diffusion into the intracellular environment, the acetate groups are cleaved by cellular esterases leaving CFSE (Item No. 16802), which is fluorescent and not cell permeable.[2] CFSE covalently couples to intracellular molecules *via* its succinimidyl group and can be retained in cells for at least eight weeks.[3] CFDA-SE is often used to assay cell proliferation as it is partitioned with high fidelity between daughter cells for up to eight generational divisions.[1,4,5] CFSE, the cleavage product of CFDA-SE, displays excitation/emission maxima of 491/518 nm, respectively.[3]

References

1. Lyons, A.B. *J. Immunol. Methods* **243(1-2)**, 147-154 (2000).
2. Breeuwer, P., Drocourt, J., Rombouts, F.M., *et al. Appl. Environ. Microbiol.* **62(1)**, 178-183 (1996).
3. Weston, S.A., and Parish, C.R. *J. Immunol. Methods* **133(1)**, 87-97 (1990).
4. Parish, C.R., Glidden, M.H., Quah, B.J.C., *et al. Curr. Protoc. Immunol. Supp.* **84**, 4.9.1-4.9.13 (2009).
5. Lecoeur, H., Février, M., Garcia, S., *et al. J. Immunol. Methods* **253(1-2)**, 177-187 (2001).

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