CF® Dye SE/TFP Ester

CF® Dye SE/TFP esters are amine-reactive fluorescent dyes. They are commonly used to label primary amines of antibodies and other proteins, amine-modified oligonucleotides and other amine-containing molecules.

Product attributes

Chemical reactivity (reacts with)	Amines
Functional group	Tetrafluorophenyl Ester (TFP Ester), Succinimidyl Ester (NHS Ester)
Storage Conditions	Store at -10 to -35 °C, Protect from light

Product Description

CF® Dye SE/TFP Esters are amine-reactive forms of Biotium's bright and photostable CF® Dyes. The succinimidyl ester (SE) group, also known as N-hydroxysuccinimide (NHS) esters, on the dye molecule reacts with primary amines such as lysine residues of antibodies or proteins, amine-modified oligonucleotides and other amine-containing molecules to form a stable amide linkage. CF® Dye TFP (tetrafluorophenyl) esters are more stable alternatives to succinimidyl ester. CF® Dye TFP esters are available for CF®850 and CF®870, Biotium's industry-leading near-infrared dyes with emission above 850 nm.

- Amine-reactive fluorescent dyes with high labeling efficiency
- Label antibodies, proteins, amine-modified oligonucleotides and other amine-containing molecules.
- Offered with Biotium's bright and photostable CF® Dyes which provide superior signal-to-noise
- Available in over 40 CF® Dye colors from blue to near-IR wavelengths
- *Near-IR CF®850 and CF®870 TFP esters offer emission above 850 nm*

Due to Biotium's unique manufacturing and packaging process, our amine-reactive CF® Dyes are provided with the highest purity and more stable ester dye forms than other vendors. As a result, our CF® Dye SE/TFP products retain more reactivity and provide a higher labeling efficiency for users.

Superior CF® Dyes

CF® Dyes are Biotium's line of next-generation fluorescent dyes that have improved brightness, photostability, and water solubility compared to other commercially available fluorescent dyes. Learn more about CF® Dyes. For more information download the CF® Dye Brochure.

Also see our CF® Dye SE Protein Labeling Kits and CF® Dye Mix-n-Stain™Antibody Labeling Kits.

CF® Dye SE/TFP Ester

Dye	Ex/Em	Size	Catalog No.	Dye Features
CF®350 SE	347/448 nm	1 umol	92109	CF®350 Features
CF®405S SE	404/431 nm	1 umol	92110	CF®405S Features
CF®405M SE	408/452 nm	1 umol	92111	CF®405M Features
CF®405L SE	395/545 nm	1 umol	92112	CF®405L Features
CF®410 SE	404/455 nm	5 mg	97502	
CF®430 SE	426/498 nm	1 umol	92117	CF®430 Features
CF®440 SE	440/515 nm	1 umol	92123	CF®440 Features
CF®450 SE	450/538 nm	1 umol	96011	CF®450 Features
CF®488A SE	490/515 nm	1 umol	92120	CF®488A Features
CF®503R SE	503/532 nm	1 umol	96078	CF®503R Features
CF®505 SE	505/519 nm	1 umol	97500	Structurally equivalent to ATTO 488
CF®510 SE	513/537 nm	1 umol	96146	
CF®514 SE	516/548 nm	1 umol	92103	CF®514 Features
CF®532 SE	527/558 nm	1 umol	92104	CF®532 Features
CF®543 SE	541/560 nm	1 umol	92105	CF®543 Features
CF®550R SE	551/577 nm	1 umol	96073	CF®550R Features
CF®555 SE	555/565 nm	1 umol	92130	CF®555 Features
CF®568 SE	562/583 nm	1 umol	92131	CF®568 Features
CF®570 SE	568/591 nm	1 umol	96014	CF®570 Features
CF®583 SE	583/606 nm	1 umol	96016	CF®583 Features
CF®583R SE	586/609 nm	1 umol	96084	CF®583R Features
CF®594 SE	593/614 nm	1 umol	92132	CF®594 Features
CF®597R SE	597/619 nm	1 umol	96092	CF®597R Features
CF®620R SE	617/639 nm	1 umol	92106	CF®620R Features
CF®633 SE	630/650 nm	1 umol	92133	CF®633 Features
CF®640R SE	642/662 nm	1 umol	92108	CF®640R Features
CF®647 SE	650/665 nm	1 umol	92135	CF®647 Features
CF®660R SE	663/682 nm	1 umol	92134	CF®660R Features
CF®660C SE	667/685 nm	1 umol	92137	CF®660C Features
CF®680 SE	681/698 nm	1 umol	92139	CF®680 Features
CF®680R SE	680/701 nm	1 umol	92107	CF®680R Features
CF®700 SE	695/720 nm	1 umol	96067	CF®700 Features
CF®710 SE	712/736 nm	1 umol	96125	CF®710 Features
CF®725 SE	729/750 nm	1 umol	96126	CF®725 Features
CF®740 SE	742/767 nm	1 umol	96109	CF®740 Features
CF®750 SE	755/779 nm	1 umol	92142	CF®750 Features
CF®770 SE	770/797 nm	1 umol	92150	CF®770 Features
CF®790 SE	784/806 nm	0.25 umol	92155	CF®790 Features
CF®800 SE	797/816 nm	0.25 umol	92127	CF®800 Features
CF®820 SE	822/835 nm	0.25 umol	96068	CF®820 Features
CF®850 TFP	852/870 nm	0.25 umol	96094	CF®850 Features
CF®870 TFP	876/896 nm	0.25 umol	96095	CF®870 Features

CF® Dye Technical Data

Dye	Abs/Em (nm)	MW (free acid form)	Sephadex® media[1]	Amax (nm)	Cf A260/Amax	Cf A280/Amax	ε[2]	Optimal DOL (IgG)
CF®350	347/448	~496	G-25	347	0.13	0.14	18,000	4-6
CF®405S	404/431	~1169	G-25	404	0.19	0.7	33,000	5-10
CF®405M	408/452	~503	G-25	408	0.24	0.13	41,000	4-6
CF®405L	395/545	~1573	G-25	395	N/A	0.5	24,000	8-12
CF®410	404/455	~242	G-25	416	0.15	0.2	46,000	5-7
CF®430	426/498	~429	G-25	426	0.21	0.044	40,000	5-8
CF®440	440/515	~479	G-25	440	0.303	0.139	40,000	5-8
CF®450	405/460	~689	G-25	450	0.205	0.2	40,000	5-8
CF®488A	490/515	~914	G-25	490	0.16	0.1	70,000	7-9
CF®503R	503/532	~1100	G-25	503	0.21	0.09	90,000	4-10
CF®505	505/519	~587	G-25	505	0.22	0.09	90,000	4-8
CF®510	513/537	~562	G-25	513	0.25	0.14	90,000	3-5
CF®514	516/548	~1216	G-25	516	0.14	0.073	105,000	5-8
CF®532	527/558	~685	G-25	527	0.11	0.06	96,000	4-7
CF®543	541/560	~887	G-25	541	0.305	0.095	100,000	4-7
CF®550R	551/577	~686	G-25	551	0.12	0.08	100,000	5-6
CF®555	555/565	~959	G-25	555	0.026	0.08	150,000	4-5, 3-6*

Dye	Abs/Em (nm)	MW (free acid form)	Sephadex® media[1]	Amax (nm)	Cf A260/Amax	Cf A280/Amax	ε[2]	Optimal DOL (IgG)
CF®568	562/583	~714	G-25	562	0.17	0.08	100,000	5-6
CF®570	568/591	~2998	G-25	568	0.0998	0.1	150,000	5-6
CF®583	583/606	~3127	G-75	583	0.139	0.223	150,000	5-6
CF®583R	585/609	~773	G-25	585	0.19	0.08	100,000	5-6
CF®594	593/614	~729	G-25	593	0.24	0.08	115,000	4-7
CF®597R	597/619	~800	G-25	597	0.25	0.08	100,000	5-6
CF®620R	617/639	~738	G-25	617	0.28	0.45	115,000	5-6
CF®633	630/650	~821	G-25	630	0.25	0.48	100,000	4-7
CF®640R	642/662	~832	G-50	642	0.23	0.44	105,000	4-7
CF®647	650/665	~985	G-25	650	0.01	0.03	240,000	4-5, 3-6*
CF®660C	667/685	~3024	G-75	667	0.05	0.08	200,000	3-6, 2-3*
CF®660R	663/682	~888	G-25	663	0.2	0.51	100,000	4-7
CF®680	681/698	~3153	G-75	681	0.06	0.09	210,000	3-5, 2-3*
CF®680R	680/701	~912	G-25	680	0.155	0.32	140,000	5-6
CF®700	696/721	~2474	G-75	696	0.055	0.06	240,000	3-6
CF®710	712/736	~860	G-25	712	0.11	0.07	115,000	5-6
CF®725	729/750	~890	G-25	729	0.11	0.07	120,000	5-6
CF®740	742/767	~900	G-25	742	0.132	0.08	105,000	5-6
CF®750	755/777	~2921	G-75	755	0.01	0.03	250,000	3-5, 2-3*
CF®770	770/797	~3091	G-75	770	0.041	0.06	220,000	3-5, 2-3*
CF®790	784/806	~3179	G-75	784	0.104	0.07	210,000	3-5
CF®800	797/816	~3334	G-75	797	0.09	0.08	210,000	3-5
CF®820	822/835	~2711	G-75	822	0.0459	0.07	253,000	3-6
CF®850	852/870	~2787	G-75	852	N/A	0.06	240,000	3-6
CF®870	876/896	~2773	G-75	877	N/A	0.06	240,000	3-6

1. Sephadex® media recommendations are for antibody purification, not nucleic acid.
2. Extinction Coefficient (ε).
*Suitable, but suboptimal DOL.

References

1. Biomater. Sci.(2019) 7, 1898-1904. DOI:10.1039/C8BM01378K
2. Biomaterials (2015) 67, 382-392. DOI:10.1016/j.biomaterials.2015.07.046
3. Microbiological Research (2018) 217, 69-80. DOI:10.1016/j.micres.2018.08.017

Download a list of CF® Dye references.