CF™ Dyes Quick Reference

Visible spectrum

Far-red

Near-infrared

CF™ dye	λ_{Ex} (nm)	λ_{Em} (nm)	Excitation*	Replacement for	Features and applications
CF™350	347	448	UV	Alexa Fluor® 350, AMCA, DyLight® 350	• Brightest blue fluorescent conjugates for 350 nm excitation • Highly water-soluble and pH insensitive
CF™405S	404	431	405 nm	Alexa Fluor® 405, Cascade Blue®, DyLight® 405	• Better compatibility with common instruments
CF™405M	408	452	405 nm	BD Horizon™ V450, eFluor® 450, Pacific Blue®	• More photostable than Pacific Blue® dye with less green spill-over • Excellent choice for super-resolution imaging by SIM
CF™405L	395	545	405 nm	Pacific Orange®	• 405 nm excitable orange fluorescent dye for multicolor detection
CF™430	426	498	405 nm	Pacific Green®, BD Horizon™ V500, Krome Orange™	• Photostable 405 nm excitable green dye • Perfect match for the CFP filter set
CF™440	440	515	405 nm	Alexa Fluor® 430	• Photostable 405 nm excitable green dye
CF™450	450	538	405 nm	Unique dye	• Green dye with unique spectral properties
CF™488A	490	515	488 nm	ATTO 488, Alexa Fluor® 488, Cy®2, DyLight® 488, FAM, FITC, Fluorescein	• Less non-specific binding and less red spill-over than Alexa Fluor® 488 • Very photostable • Compatible with super-resolution imaging by TIRF
CF™514	516	548	488 nm	Alexa Fluor® 514	• Green dye that can be separated from CF™488A by spectral unmixing
CF™532	527	558	532 nm	Alexa Fluor® 532, ATTO 532	• Significantly brighter than Alexa Fluor® 532
CF™535ST	535	568	532 nm	Unique dye for STORM	• Orange dye designed for STORM super-resolution microscopy
CF™543	541	560	532, 543, or 546 nm	Alexa Fluor® 546, Tetramethylrhodamine (TAMRA)	• Brighter than Alexa Fluor® 546
CF™555	555	565	532, 543, 546,, 555, or 568 nm	Alexa Fluor® 555, ATTO 550, Cy®3, DyLight® 549, TRITC	• Brighter than Cy®3 Validated in multicolor super-resolution imaging by STORM
CF™568	562	583	532, 543, 546, 555, or 568 nm	Alexa Fluor® 568, ATTO 565, Rhodamine Red	• Optimized for the 568 nm line of the Ar-Kr mixed-gas • Brighter and more photostable than Alexa Fluor 568 • Compatible with TIRF and multicolor STORM
CF™570	568	591	532, 543, 546, 555, or 568 nm	Alexa Fluor® 568, ATTO 565, DY-560, Rhodamine Red	• Yields brighter conjugates compared to spectrally similar dyes
CF™583	583	606	532, 543, 546, 555, or 568 nm	Cy®3.5	• Yields brighter conjugates compared to spectrally similar dyes
CF™594	593	614	532, 543, 546, 555, or 568 nm	Alexa Fluor® 594, ATTO 594, DyLight® 594, Texas Red®	• Yields the brightest conjugates among spectrally similar dyes • Extremely photostable
CF™594ST	593	614	532, 543, 546, 555, or 568 nm	Unique dye for STORM	• Specifically designed for super-resolution imaging by STORM
CF™620R	617	639	633 or 635 nm	LightCycler® Red 640	• Highly fluorescent dye with unique spectral properties
CF™633	630	650	633 or 635 nm	Alexa Fluor® 633, Alexa Fluor® 647, Cy®5, DyLight® 633	• Yields the brightest antibody conjugates among spectrally similar dyes • Far more photostable than Alexa Fluor® 647 • Compatible with super-resolution TIRF, FIONA, and gSHRImP
CF™640R	642	662	633, 635, or 640 nm	Alexa Fluor® 647, ATTO 647N, Cy®5, DyLight® 649	• Has the best photostability among dyes with Cy®5-like spectra • Yields highly fluorescent protein conjugates • Compatible with TIRF and FLIMP super-resolution techniques
CF™647	650	665	633, 635, or 640 nm	Alexa Fluor® 647, ATTO 647N, Cy®5, DyLight® 649	• Brighter than Cy®5 • Compatible with multicolor super-resolution imaging by STORM
CF™660C	667	685	633, 635, or 640 nm	Alexa Fluor® 660	• Much brighter and more photostable than Alexa Fluor® 660 • Compatible with multicolor super-resolution imaging by STORM
CF™660R	663	682	633, 635, or 640 nm	Alexa Fluor® 660	• Brighter than Alexa Fluor® 660 • The most photostable 660 nm dye
CF™680	681	698	680 or 685 nm	Alexa Fluor® 680, Cy®5.5, DyLight® 680, IRDye® 680LT	• The brightest among spectrally similar 680 nm dyes • Validated in multicolor STORM and 2-color 3D super-resolution imaging • Compatible with LI-COR® Odyssey® System
CF™680R	680	701	680 or 685 nm	Alexa Fluor® 680, Cy®5.5, DyLight® 680, IRDye® 680LT	• The most photostable 680 nm dye • Suitable for labeling nucleic acids and small biomolecules • Compatible with LI-COR® Odyssey® System • Compatible with STED and single molecule spectroscopy
CF™750	755	777	680 or 685 nm	Alexa Fluor® 750, Cy®7, DyLight® 750, IRDye® 750	• Exceptionally bright and stable • Highly water soluble without bearing excessive charge • Validated in super-resolution imaging by STORM
CF™770	770	797	785 nm	DyLight® 800, IRDye® 800CW, ZW800-1	• Exceptionally bright and stable • Compatible with LI-COR® Odyssey® System
CF™790	784	806	785 nm	Alexa Fluor® 790	• Exceptionally bright and stable • Highly water soluble without bearing excessive charge
CF™800	797	816	785 nm	Spectrally similar to Indocyanine green	• Unique long wavelength near-infrared dye

*Visible and far-red dyes can be excited by a UV light source for epifluorescence microscopy.

Biotium

CF™ Dye Product Lines

Bioconjugates

Primary antibodies

- More than 750 mouse monoclonal antibodies
- Recombinant rabbit monoclonal antibodies coming soon
- Validated in IHC and other applications
- Choose from 13 bright and photostable CF™ dyes
- Also available with R-PE, APC, PerCP, HRP, AP, or biotin
- Available purified without BSA, ready to use for Mix-n-Stain™ labeling or other conjugation
- Offered in affordable 100 uL sizes

Anti-tag antibodies

- Antibodies against GFP, RFP, biotin, HA-tag, 6X His tag, and more
- Choose from several bright and photostable CF™ dye options

Secondary antibodies

- Wide variety of host and target species
- F(ab)'2, highly cross-adsorbed, and isotype-specific antibodies available
- Choose from 20 bright and photostable CF™ dyes
- Also available with R-PE, APC, PerCP, HRP, AP, or biotin
- Available in multiple sizes, liquid format or lyophilized

Other bioconjugates

- Streptavidin
- Phalloidin
- Annexin V
- BSA, dextrans, transferrin, and cholera toxin
- Lectins
- Nucleotide conjugates

Reactive Dyes and Labeling Kits

Mix-n-Stain™ Antibody Labeling Kits

- The simplest antibody labeling protocol available
- Label your antibody with your choice of more than 20 CF™ dye colors, biotin, DNP, digoxygenin, or FITC in just 30 minutes, with minimal hands-on time
- No post-labeling purification required
- Labeling is covalent, suitable for multiplex staining
- Choice of small-scale labeling sizes preserves precious primary antibodies
- Kits tolerate common antibody buffer components and stabilizer proteins
- Mix-n-Stain™ kits also available for labeling antibodies with R-PE, APC, Per-CP, R-PE-CF750T, HRP, AP, and glucose oxidase

Mix-n-Stain™ Small Ligand Labeling Kits

- For labeling small molecules on primary amines
- Label 0.1 umol SNAP-Tag®, CLIP-Tag™, or HALO-Tag® ligands
- Choose from 10 CF™ dye colors for surface targets, or 3 CF™ dye colors for intracellular targets

CF™ Dye SE and VivoBrite™ Protein Labeling Kits

- Everything you need to label and purify 3 x 1 mg antibody or other protein using standard conjugation techniques
- VivoBrite™ kits feature our superior near-IR CF™ dyes for in vivo imaging

Reactive Dyes

- Our full selection of CF™ dyes with a wide variety of functional groups

Related Products and Accessories

- TrueBlack™ Lipofuscin Autofluorescence Quencher
- EverBrite™ Antifade Mounting Media
- CoverGrip™ Coverslip Sealant
- RedDot™ Far-Red Nuclear Counterstain and other counterstains
- Buffers, blocking agents, Pap pens, and more

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