

CF™488A Dye

A superior green dye to Alexa Fluor® 488

Technical Summary

Abs/Em Maxima: 490/515 nm

Extinction coefficient: 70,000

Molecular weight: ~910

Flow cytometry laser line: 488 nm

Microscopy laser line: 488 nm

Direct replacement for: Alexa Fluor® 488, DyLight™488, FITC, FAM, Cy™2

Advantages

- Yields biologically more specific antibody conjugates and has less “spill-over” fluorescence in the red channel than Alexa Fluor® 488
- Extremely photostable
- Highly water-soluble and pH-insensitive

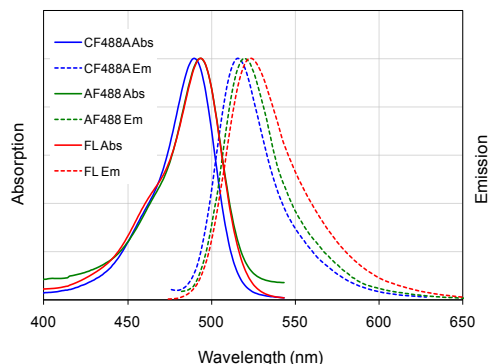


Figure 1. Absorption and emission spectra of CF™488A (blue), Alexa Fluor® 488 (green) and FITC (red) conjugated to goat anti-mouse IgG in PBS.

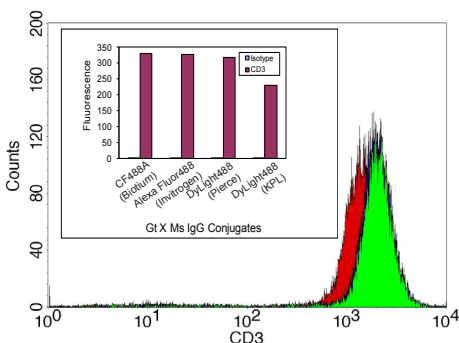


Figure 2. Jurkat cells were stained with intracellular CD3 or isotype control (BD Biosciences) followed by goat anti-mouse IgG conjugates from the manufacturer's shown above. The inset graph depicts the median fluorescence of the population as analyzed on a Beckman Coulter FC-500. The histogram depicts an overlay of CD3-stained cells with CF488A (green), AlexaFluor488 (blue), DyLight488 Pierce (purple) and DyLight488 KPL (red) as analyzed on a BD FACS Calibur in the FL1 channel.

CF™488A is a green fluorescent dye optimally excitable by the 488 nm argon laser line. Under common detection conditions, CF™488A is at least as bright as Alexa Fluor® 488. However, a major advantage of CF™488A over Alexa Fluor® 488 is that antibody conjugates prepared from the former are biologically more specific. Alexa Fluor® 488 carries multiple negative charges, which can significantly change the isoelectric point of the proteins the dye labels and consequently alter the specificity of the protein conjugates. CF™488A, on the other hand, is minimally charged. Thus, antibody conjugates prepared from the dye ensure biological detection with high signal-to-noise ratio. Another feature of CF™488A is that the emission peak wavelength is about 10 nm shorter than that of Alexa Fluor® 488 and 15 nm shorter than that of the traditional green dye FITC (or FAM). The shorter wavelength of CF™488A offers the advantage of less fluorescence “spill-over” in the red channel in multi-color detection applications.

A list of CF™488A-based products are shown in Table 1. A full selection of secondary antibodies, antibody labeling kits, and other bio-conjugates including phalloidins, annexin V and α -bungarotoxin are also available for many CF™ dyes. Please visit the Biotium website at www.biotium.com for details.

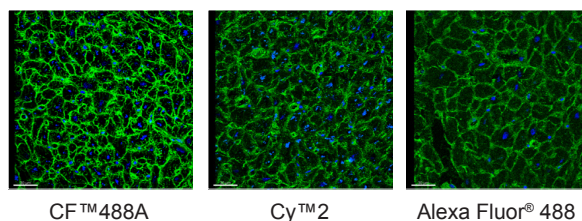


Figure 3. Cryosections (6 μ m) of human control heart sections stained with anti-fibronectin followed by goat anti-rabbit IgG labeled with CF™488A, Cy™2 and Alexa Fluor® 488, respectively. Courtesy of Dr. Sawa Kostin at Max-Planck-Institut für Herz- und Lungenforschung (W.G. Kerckhoff-Institut) in Bad Nauheim (Hessen)-Germany.

If you are looking for an antibody conjugate not listed in our catalog, please let us know. We might be able to add it as a new product, or perform a custom conjugation for you.



Biotium, Inc.

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US orders: 1-800-304-5357

CF™488A fluorescent reagents

Table 1. CF™488 Product List

Product Name	Size	Cat No.
CF™488A-Labeled Secondary Antibody Conjugates		
Donkey Anti-Goat IgG (H+L) whole antibody, 2 mg/mL (min X Chicken, Guinea Pig, Syrian Hamster, Horse, Human, Mouse, Rabbit, and Rat)	0.5 mL	20016
Donkey Anti-Mouse IgG (H+L) whole antibody, 2 mg/mL (min X Bovine, Chicken, Goat, Guinea Pig, Syrian Hamster, Horse, Human, Rabbit, and Sheep)	0.5 mL	20014
Donkey Anti-Rabbit IgG (H+L) whole antibody, 2 mg/mL (min X Bovine, Chicken, Goat, Guinea Pig, Syrian Hamster, Horse, Human, Mouse, Rat, and Sheep)	0.5 mL	20015
Donkey Anti-Rat IgG (H+L) whole antibody, 2 mg/mL (min X Bovine, Chicken, Goat, Guinea Pig, Syrian Hamster, Horse, Human, Rabbit, and Sheep)	0.5 mL	20027
Donkey Anti-Sheep IgG (H+L) whole antibody, 2 mg/mL (min X Chicken, Guinea Pig, Syrian Hamster, Horse, Human, Mouse, Rabbit, and Rat)	0.5 mL	20024
Goat Anti-Chicken IgY (IgG) (H+L) whole antibody, 2 mg/mL (min X Bovine, Goat, Guinea Pig, Syrian Hamster, Horse, Human, Mouse, Rabbit, Rat, and Sheep)	0.5 mL	20020
Goat Anti-Guinea Pig IgG (H+L) whole antibody, 2 mg/mL	0.5 mL	20017
Goat Anti-Human IgG (H+L) whole antibody, 2 mg/mL (min X Bovine, Horse, and Mouse)	0.5 mL	20022
Goat Anti-Mouse IgG (H+L) whole antibody, 2 mg/mL	0.5 mL	20010
Goat Anti-Mouse IgG (H+L) whole antibody, 2 mg/mL (min x Human, Bovine, Horse, Rabbit, and Swine)	0.5 mL	20018
Goat Anti-Rabbit IgG (H+L) whole antibody, 2 mg/mL	0.5 mL	20012
Goat Anti-Rabbit IgG (H+L) whole antibody, 2 mg/mL (min X Human, Mouse, and Rat)	0.5 mL	20019
Goat Anti-Rabbit IgG (H+L), F(ab')₂ fragment, 2 mg/mL	0.25 mL	20013
Goat Anti-Rat IgG (H+L) whole antibody, 2 mg/mL (min X Human, Bovine, Horse, and Rabbit)	0.5 mL	20023
Goat Anti-Swine IgG (H+L) whole antibody, 2 mg/mL	0.5 mL	20028
Rabbit Anti-Goat IgG (H+L) whole antibody, 2 mg/mL	0.5 mL	20021
Rabbit Anti-Mouse IgG (H+L) whole antibody, 2 mg/mL (min X Human)	0.5 mL	20026
Rabbit Anti-Rat IgG (H+L) whole antibody, 2 mg/mL (min X Human)	0.5 mL	20025
Other CF™488A-Labeled Products		
Annexin V, 50 µg/mL	0.5 mL	29005
α-Bungarotoxin	0.5 mg	00005
Phalloidin	300 U	00042
Streptavidin	1 mg	29034
CF™488A Reactive Dyes and Labeling Kits		
CF™488A, aminoxy	1 mg	92051
CF™488A hydrazide	1 mg	92152
CF™488A maleimide	1 µmole	92022
CF™488A succinimidyl ester	1 µmole	92120
CF™488A SE protein labeling kit	3 labelings (for 1 mg protein each)	92213
Mix-n-Stain™ CF™488A antibody labeling kit, 1x(50-100 µg) labeling	1 labeling	92233
Mix-n-Stain™ CF™488A antibody labeling kit, 1x(20-50 µg) labeling	1 labeling	92253
Mix-n-Stain™ CF™488A antibody labeling kit, 1x(5-20 µg) labeling	1 labeling	92273

Listed products are for research use only. Not for use in diagnostic or therapeutic procedures. CF is a trademark of Biotium; CF dye technologies are covered by pending US and international patents.

Alexa Fluor is registered trademark of Invitrogen.

Cy is a trademark of GE Healthcare.

DyLight is a trademark of ThermoFisher.



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