

CF™405M Dye

A superior 405 nm-excitable blue fluorescent dye

Technical Summary

Abs/Em Maxima: 408/452 nm
Extinction coefficient: 41,000
Molecular weight: 503
Flow cytometry laser line: 405 nm
Microscopy laser line: 405 nm
Direct replacement for: Pacific Blue® dye, BD Horizon™ V450

Advantages

- More photostable than Pacific Blue® dye
- As bright as Pacific Blue® dye in the 450/50 blue channel while having less spillover in the 525/50 green channel
- Highly water-soluble

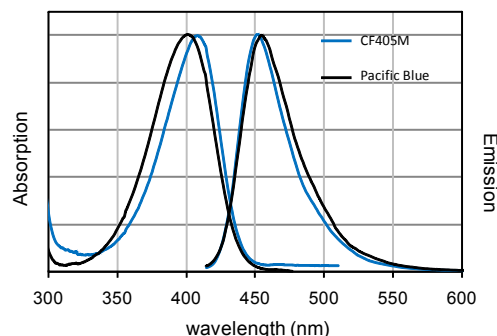


Figure 1. Absorption and emission spectra of CF™405M and Pacific Blue® dye conjugated to goat anti-mouse IgG in PBS.

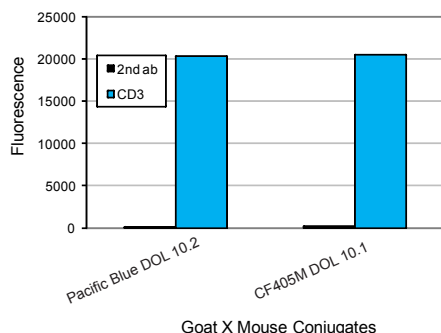


Figure 2. Jurkat cells were stained with intracellular CD3 followed by CF405M or Pacific Blue goat anti-mouse IgG conjugates. Fluorescence was analyzed on a BD LSR II flow cytometer equipped with a 405 violet laser and 450/50 nm emission detection. The bars represent the relative fluorescence of the geometric means of the population of cells. Background was determined by secondary antibody staining alone.

CF™405M is a blue fluorescent dye spectrally similar to Pacific Blue® dye (Figure 1). CF™405M is as bright as Pacific Blue® dye but is significantly more photostable than the latter (Figures 2 and 4). An additional advantage of CF™405M is that it has less spillover in the 525/50 green channel than Pacific Blue® dye due to narrower emission peak (Figure 1), making CF™405M a superior choice in multi-color detection applications. We also offer CF™405S, another 405 nm-excitable dye with an even shorter emission wavelength (See CF™405S Flyer for details).

A list of CF™405M-based products are shown in Table 1. A full selection of secondary antibodies, antibody labeling kits, and other bioconjugates including phalloidins, annexin V and α -bungarotoxin are also available for many CF™ dyes. Visit the Biotium website: www.biotium.com for details.

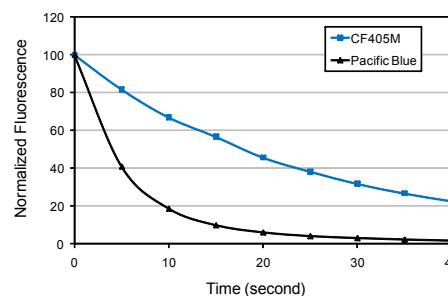


Figure 3. Photostability of CF405M and Pacific Blue dyes. CF405M and Pacific Blue dye solutions at the same concentration were continuously exposed to a mercury arc lamp microscope with a DAPI filter set. Images were taken at every 5 seconds. Fluorescence intensity was normalized to $t = 0$.

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.

CF™405M fluorescent reagents

Table 1. CF™405M Product List

Product Name	Size	Cat No.
CF™405M-Labeled Secondary Antibody Conjugates		
Goat Anti-Mouse IgG (H+L) whole antibody, 2 mg/mL	0.5 mL	20180
Goat Anti-Mouse IgG (H+L) whole antibody, 2 mg/mL (min x Human, Bovine, Horse, Rabbit, and Swine)	0.5 mL	20182
Goat Anti-Rabbit IgG (H+L) whole antibody, 2 mg/mL	0.5 mL	20181
Other CF™405M-Labeled Products		
Annexin V, 50 µg/mL	0.5 mL	29009
Streptavidin	1 mg	29033
CF™405M Reactive Dyes and Labeling Kits		
CF™405M maleimide	1 µmole	92021
CF™405M succinimidyl ester	1 µmole	92111
CF™405M SE protein labeling kit	3 labelings (for 1 mg protein each)	92212
CF™405M SE microscale protein labeling kit	3 labelings (for 20-100 µg protein each)	92232

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