

Product Information

Concanavalin A (Con A) CF® Dye Conjugates

See [product page](#) for a full list of product names, unit sizes, and catalog numbers.

Form: Lyophilized solid

Storage and Handling

Store at -20°C, protected from light. Product is stable for at least 12 months from the date of receipt when stored as recommended. Store reconstituted stock solution at 4°C with the addition of 2 mM sodium azide. For longer-term storage, aliquot the conjugate solution and store at -20°C. Avoid repeated freeze-thaw cycles and protect aliquots from light.

Preparing Stock Solutions

Stock solutions can be made at 1-5 mg/mL in deionized water or in 0.1 M sodium bicarbonate pH 8.3. A small percentage of the conjugate may remain as a visible aggregate in solution. Before use, centrifuge the Con A conjugate solution briefly in a microcentrifuge to sediment any large aggregates, and use the supernatant to prepare staining solution.

Product Technical Information

See [product page](#) for spectral properties and other dye-specific technical information. See our [Spectra Viewer](#) to view and download the dye excitation and emission spectra.

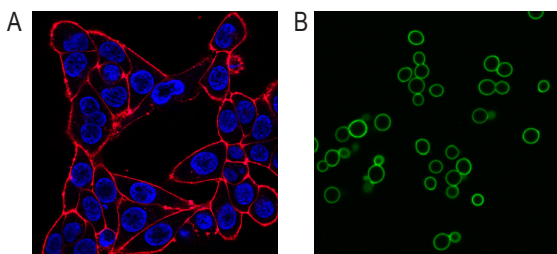


Figure 1. A) HeLa cells were co-stained with CF@594 Con A (red) and Hoechst (blue) and imaged on a Zeiss LSM 700 confocal microscope. B) *S. cerevisiae* yeast were stained with CF@488A Con A (green) in Hanks Balanced Salt Solution (HBSS), then imaged on a Zeiss LSM 700 confocal microscope.

Product Description

Lectins are versatile probes for detecting glycoconjugates in microscopy and flow cytometric applications and for gel staining of glycoproteins. Concanavalin A (Con A) selectively binds to α -mannopyranosyl and α -glucopyranosyl residues found in the cell walls of yeast and fungi and the cell membrane of mammalian cells. In neutral and alkaline solutions, Con A exists as a tetramer with a molecular weight of approximately 104 kDa. In acidic solutions (pH below 5.0), Con A exists as a dimer.

Con A has been used in various applications, including immunofluorescence, immunohistochemistry, and flow cytometry. In many cell types, Con A is a good marker of ER and Golgi.

Experimental Protocols

Cell staining protocol

This staining protocol was developed using the human HeLa cell line. The protocol may need to be optimized for other cell types. Con A may not stain the plasma membrane in all cells; expression and localization of Con A binding sites vary among tissues and cell types.

Note: Cells can be fixed either before or after staining. However, intracellular staining will be more prominent in fixed and permeabilized cells. To retain plasma membrane staining, we recommend staining live cells, followed by formaldehyde-fixation and detergent permeabilization, or staining formaldehyde-fixed cells, followed by detergent permeabilization.

1. Wash the cells once with Hanks Buffered Salt Solution (HBSS) (with calcium/magnesium) and replace with HBSS containing the Con A conjugate. Typically, a final concentration of 50-200 μ g/mL is used for cell staining.
2. Incubate at room temperature or 37°C for 10-30 minutes. The conjugate may be internalized by endocytosis during incubation at 37°C.
3. Wash 1-2 times with HBSS. Washing is optional for confocal microscopy, but recommended if you are performing epifluorescence imaging.
4. Image cells using the appropriate settings (see [product page](#) for peak excitation and emission for each dye).

Yeast staining protocol

This staining protocol was optimized using *Saccharomyces cerevisiae* in culture. The protocol may need to be optimized for other cell types.

1. Culture yeast overnight in media. Measure the absorbance of the culture at 600 nm and dilute the cells to an OD₆₀₀ of approximately 0.1 in HBSS.
2. Pellet cells by centrifugation, and resuspend in HBSS (with calcium/magnesium) containing 50 ug/mL of the Con A conjugate.
3. Incubate at room temperature or 37°C for 30 minutes.
4. Wash 1-2 times with HBSS. Washing is optional for confocal microscopy, but recommended if you are performing epifluorescence imaging.
5. Image cells using the appropriate settings (see [product page](#) for peak excitation and emission for each dye).

Related Products

Cat. No.	Product
00070... 29127	Cholera Toxin Subunit B CF® Dye Conjugates
29060... 29137	CF® Dye PNA Lectin (<i>Arachis hypogaea</i>)
29021... 29128	Wheat Germ Agglutinin (WGA) Conjugates
29096... 29131	<i>Datura Stramonium</i> Lectin (DSL) Conjugates
29102... 29132	<i>Lycopersicon Esculentum</i> (Tomato) Lectin (LEL, TL) Conjugates
29108... 29133	<i>Ulex Europaeus</i> Agglutinin I (UEA I) Conjugates
29114... 29134	<i>Phaseolus Vulgaris</i> Leucoagglutinin (PHA-L) Conjugates
29120... 29135	<i>Sambucus Nigra</i> Lectin (SNA, EBL) Conjugates
31063	Yeast Viability Staining Kits
31064	Yeast Live-or-Dye™ Fixable Live/Dead Staining Kit
31062	Yeast Vitality Staining Kit
29067	Calcofluor White
32002-32017	Live-or-Dye™ Fixable Viability Staining Kits
32000-1	Live Bacterial Gram Stain Kit
32019, 32020	Bacterial Viability and Gram Stain Kit
32019-32020	BactoView™ Viability Kits
40107-40113	BactoView™ Dead Stains
70062-70064	ViaFluor® Live Cell Microtubule Stains
70054-70070	MitoView™ Mitochondrial Stains
40083... 41040	NucSpot® Nuclear Stains
40081-40082	NucSpot® Live Nuclear Stains for live or fixed cells
40060	RedDot™ 1 Far-Red Nuclear Stain for live cells
40061	RedDot™ 2 Far-Red Nuclear Stain for dead or fixed cells
40046	Hoechst 33342, 10 mg/mL in water
70065	LipidSpot™ 488 Lipid Droplet Stain
70069	LipidSpot™ 610 Lipid Droplet Stain
30131-30135	CytoLiner™ Fixed Cell Membrane Stains
30021-30024	CellBrite® Cytoplasmic Membrane Dyes
30088-30090	CellBrite® Fix Membrane Stains
30105-30109	CellBrite® Steady Membrane Staining Kits
30092-30104	MemBrite® Fix Cell Surface Staining Kits

Please visit our website at www.biotium.com for information on our life science research products, including microbiology staining kits, fluorescent CF® Dye WGA, PNA, phalloidin, and other bioconjugates, antibody conjugates, antibody labeling kits, cell viability reagents, fluorescent probes, and kits for cell biology research.

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