

# Product Information

## CF™ Dye Concanavalin A (Con A) Conjugates

Catalog No.	Quantity	Conjugate
29015	5 x 1 mg	CF™350
29075	5 x 1 mg	CF™405S
29074	5 x 1 mg	CF™405M
29016	5 x 1 mg	CF™488A
29017	5 x 1 mg	CF™594
29018	5 x 1 mg	CF™633
29019	5 x 1 mg	CF™640R
29020	5 x 1 mg	CF™680
29080	5 x 1 mg	CF™750
29058	5 x 1 mg	CF™770

### Spectral Properties

Conjugate	Absorption (nm)	Emission (nm)
CF™350	347	448
CF™405S	404	431
CF™405M	408	452
CF™488A	490	515
CF™594	593	614
CF™633	630	650
CF™640R	642	662
CF™680	681	698
CF™750	755	777
CF™770	770	797

$\lambda_{\text{abs}}/\lambda_{\text{em}}$  in pH 7.4 PBS buffer

### Storage and Handling

Store the solid dye at -20°C, protected from light. When stored as directed, solid dye is stable for at least 1 year from date of receipt. Reconstituted dye solution can be stored at 2-6°C with the addition of 2 mM sodium azide. For longer storage, store aliquots at ≤ -20°C and avoid repeated freeze-thaw cycles. Protect from light.

### Product Description

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

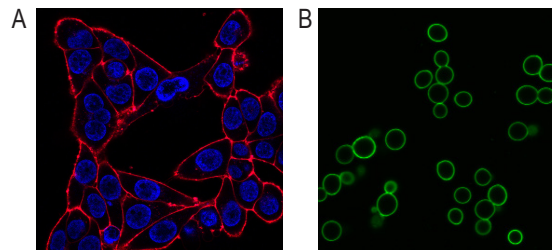


Figure 1. A. HeLa cells were co-stained with CF594™-ConA (red) and Hoechst (blue) and imaged on a Zeiss LSM 700 confocal microscope. B. Saccharomyces cerevisiae were grown overnight in YPD media, spun and resuspended in Hanks Buffered Salt Solution (HBSS) containing CF488A™-ConA (green). The yeast were imaged on a Zeiss LSM 700 confocal microscope.

## Experimental Protocols

### Dye Reconstitution

Stock solutions can be made at 1-5 mg/mL in 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 ConA conjugate solution briefly in a microcentrifuge, and use the supernatant to prepare staining solution. This step will eliminate protein aggregates that may have formed during storage, thereby reducing nonspecific background staining.

### Cultured Cell Staining Protocol

This staining protocol was optimized using the human HeLa cell line. The protocol may need to be optimized for other cell types.

1. For adherent cell lines, wash the cells once with HBSS and replace with HBSS containing the ConA conjugate (typically, a final concentration of 50-200  $\mu\text{g}/\text{mL}$  is used for immunohistochemical applications).
2. Incubate at room temperature or 37°C for 30 minutes.
3. (Optional): Wash 1-2 times with HBSS.
4. Image cells on a microscope using the appropriate filter set (see Spectral Properties for peak excitation and emission).

### 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. Take the OD600 of the culture and dilute the cells to OD600 of approximately 0.1 in HBSS.
2. Spin, and resuspend in HBSS containing 50  $\mu\text{g}/\text{mL}$  of the ConA conjugate.
3. Incubate at room temperature or 37°C for 30 minutes.
4. (Optional): Wash 1-2 times with HBSS.
4. Image cells on a microscope using the appropriate filter set (see Spectral Properties for peak excitation and emission).

## Related Products

Catalog number	Product
29021-29029; 29059; 29064	CF™ dye-conjugated Wheat Germ Agglutinin (WGA)
29067	Calcofluor White
40043	DAPI in H <sub>2</sub> O, 10 mg/mL
40046	Hoechst 33342, 10 mg/mL in H <sub>2</sub> O
23002	EverBrite™ Mounting Medium with DAPI
23004	EverBrite™ Hardset Mounting Medium with DAPI
32006	Live-or-Dye™ 594/614 Fixable Viability Staining Kit, Trial Size
30050	ViaFluor™ CFSE Cell Proliferation Kit
00042	CF™488A Phalloidin

Please visit our website at [www.biotium.com](http://www.biotium.com) for information on our life science research products, including microbiology staining kits, fluorescent CF™ dye antibody conjugates and reactive dyes, cell viability reagents, fluorescent probes, and kits for cell biology research.

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