

# Product Information

## Wheat Germ Agglutinin (WGA) Conjugates

### Product List

Catalog no.	Conjugate	Unit Size	Ex/Em* (nm)
29021-1	CF@350 WGA	1 mg	347/448
29021		5 x 1 mg	
29027-1	CF@405S WGA	1 mg	404/431
29027		5 x 1 mg	
29028-1	CF@405M WGA	1 mg	408/452
29028		5 x 1 mg	
29022-1	CF@488A WGA	1 mg	490/515
29022		5 x 1 mg	
29064	CF@532 WGA	5 x 1 mg	527/558
29064-1		1 mg	
29076	CF@555 WGA	5 x 1 mg	555/565
29076-1		1 mg	
29077	CF@568 WGA	5 x 1 mg	562/583
29077-1		1 mg	
29023-1	CF@594 WGA	1 mg	593/614
29023		5 x 1 mg	
29024-1	CF@633 WGA	1 mg	630/650
29024		5 x 1 mg	
29026-1	CF@640R WGA	1 mg	642/662
29026		5 x 1 mg	
29029-1	CF@680 WGA	1 mg	681/698
29029		5 x 1 mg	
29025-1	CF@680R WGA	1 mg	680/701
29025		5 x 1 mg	
29059-1	CF@770 WGA	1 mg	770/797
29059		5 x 1 mg	
29073	HRP WGA	1 mg	N/A

\* In PBS, pH 7.4

### Storage and Handling

Store at -20°C, protected from light. Product is stable for at least one year from date of receipt when stored as recommended.

### Product Description

Wheat germ agglutinin (WGA) binds selectively to N-acetylglucosamine and sialic acid residues. WGA is commonly used to label glycoproteins for imaging of the plasma membrane in live or fixed cells, for staining of tissue sections, or for western blotting. WGA also is useful as a retrograde or anterograde neuronal tracer. Staining with WGA conjugates may be tissue-type and cell-type dependent. WGA also labels gram-positive bacteria and yeast bud scars.

Biotium's next-generation fluorescent CF® Dyes offer advantages in brightness and photostability compared to other fluorescent dyes. We also offer HRP WGA, which can be used with colorimetric HRP substrates or fluorescent tyramide substrates.

### Experimental Protocols

#### Conjugate Reconstitution

To prepare a 1 mg/mL stock solution, dissolve 1 mg of lyophilized WGA conjugate in 1 mL water. After reconstitution, the conjugate solution will contain 1X PBS. The stock solution can be stored at 2-8°C for short-term storage or at -20°C for long-term storage. Protect fluorescent conjugates from light. Do not use azide with HRP conjugates.

#### Recommended Buffers for Staining Cells

Bacterial cells:

0.15 M NaCl or 3 M KCl.

Yeast cells:

Synthetic defined complete (SDC) media, or Hank's balanced salt solution (HBSS) without phenol red. YPD media is not recommended due to autofluorescence, and PBS is not recommended for WGA staining because it can reduce staining efficiency.

Mammalian cells:

For fixed cells, PBS or Hank's balanced salt solution (HBSS) without phenol red can be used. For live adherent cells, HBSS is recommended as it maintains cell morphology. We also have performed staining in complete culture medium with serum with good results.

#### Protocol for Staining Cells

1. Wash cells twice with a recommended buffer.
2. Prepare a staining solution of WGA in a recommended buffer. Staining concentration may require optimization. Recommended starting concentration is 50-100 ug/mL for bacterial and yeast cells, and 5 ug/mL for mammalian cells.
3. Incubate cells with WGA staining solution for 10-30 minutes at room temperature for bacterial and yeast cells, or 10 minutes at 37°C for mammalian cells.

**Note:** With longer incubation times, increased intracellular staining may be observed in mammalian cells.

4. Wash cells twice with buffer.

**Note:** Washing may be optional for confocal microscopy or flow cytometry.

5. Image cells on a microscope using the appropriate filter set (see product table for peak excitation and emission). Staining also can be detected by flow cytometry in the appropriate detection channel.

**Note:** WGA staining can withstand fixation and permeabilization. Cells also can be labeled with WGA after fixation. For cell surface labeling, staining with WGA should be performed prior to cell permeabilization. In permeabilized cells, WGA will label glycoproteins in the plasma membrane and intracellular compartments such as Golgi structures.

## Related Products

Catalog number	Product
00070-00079	Cholera Toxin Subunit B CF® Dye Conjugates
29015... 29080	CF® Dye Concanavalin A (Con A)
29060-29063	CF® Dye-conjugated PNA Lectin from <i>Arachis hypogaea</i> (Peanut)
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
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
32000-1	Live Bacterial Gram Stain Kit
32001	Bacterial Viability and Gram Stain Kit
30027	Viability/Cytotoxicity Assay Kit for Bacterial Live and Dead Cells
30015	DAB Substrate Kit
92170-96066	CF® Dye Tyramides
22027	Ready-to-Use Tyramide Amplification Buffer
22023	Paraformaldehyde, 4% in PBS, Ready-to-Use Fixative

Please visit our website at [www.biotium.com](http://www.biotium.com) for information on our life science research products, including environmentally friendly EvaGreen® qPCR master mixes, fluorescent CF® Dye antibody conjugates and reactive dyes, apoptosis reagents, fluorescent probes, and kits for cell biology research.

CF® Dyes are covered by pending US and international patents. Materials from Biotium are sold for research use only, and are not intended for food, drug, household, or cosmetic use.