Wheat Germ Agglutinin, AF488 Labeled

Catalog number: 25500
Unit size: 1 mg

Component	Storage	Amount
Wheat Germ Agglutinin, AF488 Labeled	Freeze (< -15 °C), Minimize light exposure	1 mg

OVERVIEW

Wheat germ agglutinin (WGA) is a lectin that binds to N-acetyl-D-glucosamine and sialic acid. It is of the most studied and useful lectins for it biological applications. Since WGA binds to glycoconjugates its derivatives and conjugates are widely used to label cell membranes and fibrotic scar tissue for fluorescence imaging and analysis. The carbohydrate-binding specificity of WGA is directed against sequences of β-1,4-GlcNAc-linked residues, the chitodextrins. Each monomer contains two identical, non-interacting binding sites which are complementary to 3 or 4 β-1,4-GlcNAc units. Of the monosaccharides examined, only GlcNAc binds to WGA. ManNAc does not bind and GalNAc binds only weakly. AF488 conjugate of WGA is equivalent to the Alexa Fluor® 488 conjugate of WGA . It exhibits the bright, green fluorescence of the Alexa Fluor® 488 dye (Alexa Fluor® is the trademark of ThermoFisher). AF488 WGA conjugate binds to sialic acid and N-acetylglucosaminyl residues.

KEY PARAMETERS

Fluorescence microscope

Excitation	FITC filter set
Emission	FITC filter set
Recommended plate	Black wall/clear bottom

PREPARATION OF STOCK SOLUTIONS

Unless otherwise noted, all unused stock solutions should be divided into single-use aliquots and stored at -20 °C after preparation. Avoid repeated freeze-thaw cycles.

AF488-Wheat Germ Agglutinin (WGA) Conjugate stock solution (200X)
Add 500 µL of ddH_2O into the powder form to make 2 mg/mL stock solution.

Note The reconstituted conjugate solution can be stored at 2-8 °C for short-term storage or at -20 °C for long-term storage.

PREPARATION OF WORKING SOLUTION

AF488-Wheat Germ Agglutinin (WGA) Conjugate working solution (1X)
Add 5 µL of 200X WGA conjugate solution to 1 mL HHBS Buffer.

Note The optimized staining concentration may be different with different cell lines. The recommended starting concentration is 5-10 µg/mL for live cells.

SAMPLE EXPERIMENTAL PROTOCOL

Warm the vial to room temperature centrifuge briefly before opening. Staining protocols vary with applications. Appropriate dilution of conjugates should be determined experimentally.

Live Cells Stain

1. Wash cells twice with a HHBS buffer.
2. Add 100 µL AF488-WGA working solution.
3. Incubate cells with WGA working solution for 10-30 minutes at 37 °C.
4. Wash cells twice with HHBS buffer.
5. Image cells on a fluorescence microscope using FITC filter set.

Fixed Cells Stain
WGA conjugates can be also used to stain fixed cells.

1. Fix cells with 4% Formaldehyde in PBS.

   Note For fixed cell membrane staining, it is recommended to stain without permeabilization step. Permeabilized step can after fixation will lead to intracellular compartments stain such as Golgi and Endoplasmic Reticulum (ER) structures.
2. Add 100 µL AF488-WGA working solution.
3. Incubate cells with WGA working solution for 10-30 minutes at room temperature.
4. Wash cells twice with HHBS buffer.
5. Image cells on a fluorescence microscope using FITC filter set.

EXAMPLE DATA ANALYSIS AND FIGURES

Example data analysis and images of this product can be found on the web at:
https://www.aatbio.com/products/wheat-germ-agglutinin-af488-labeled

DISCLAIMER

AAT Bioquest provides high-quality reagents and materials for research use only. For proper handling of potentially hazardous chemicals, please consult the Safety Data Sheet (SDS) provided for the product. Chemical analysis and/or reverse engineering of any kit or its components is strictly prohibited without written permission from AAT Bioquest. Please call 408-733-1055 or email info@aatbio.com if you have any questions.