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Fluorescent Conjugates of Lectin GS-II from Griffonia simplicifolia

L-21415 lectin GS-II from *Griffonia simplicifolia*, Alexa Fluor® 488 conjugate
L-21416 lectin GS-II from *Griffonia simplicifolia*, Alexa Fluor® 594 conjugate
L-32451 lectin GS-II from *Griffonia simplicifolia*, Alexa Fluor® 647 conjugate

Quick Facts

Storage upon receipt:
- –20°C
- Desiccate
- Protect from light

Abs/Em: See Table 1

Introduction

Lectin GS-II, isolated from the seeds of the tropical African legume *Griffonia simplicifolia* (formerly *Bandeiraea simplicifolia*), is a 113 kDa tetramer composed of identical subunits. Each subunit contains a single binding site specific for terminal, non-reducing α- or β-linked *N*-acetyl-D-glucosamine.[1] Unlike many other lectins, GS-II does not react with any specific blood group. Molecular Probes offers fluorescent conjugates of GS-II with our excellent Alexa Fluor® 488 and Alexa Fluor 594 dyes. The Alexa Fluor 488 conjugate (L-21415) is spectrally similar to fluorescein but brighter and more photostable than fluorescein conjugates. Similarly, the Alexa Fluor 594 conjugate (L-21416) is a superior spectral analog of Texas Red®.

Materials

The GS-II Alexa Fluor 488 conjugate is supplied lyophilized in a unit size of 500 µg. When stored desiccated at -20°C, the lyophilized product is stable for at least one year. Solutions up to ~1 mg/mL can be made by dissolving the protein in an aqueous buffer at neutral pH containing 0.1–1.0 mM $CaCl_2$. CALCIUM IS REQUIRED FOR LECTIN BINDING. Solutions, with the addition of sodium azide to a final concentration of 2 mM, can be stored at 4°C for at least four months with no loss of activity. For longer storage, divide the solution into aliquots and freeze at -20°C. AVOID REPEATED FREEZING AND THAWING.

It is a good practice to centrifuge the lectin conjugate solution briefly in a microcentrifuge before use; only the supernatant should then be added to the experiment. This step will eliminate any protein aggregates that may have formed in solution, thereby reducing nonspecific background staining.

Applications

Lectin GS-II has been used to detect the expression of terminal *N*-acetyl-D-glucosamine residues in a wide variety of tissue and cell types.[2-4] Other research has shown the lectin to be an effective marker for certain carcinomas[5,6] and uterine blood vessels.[7] Within cells, fluorescently labeled GS-II has also been used as selective stain for the Golgi apparatus.[8] Since the applications of lectin GS-II are varied, researchers should consult the primary literature for protocol information.

Table 1. *GS-II conjugates and spectral characteristics.*

Catalog #	Conjugate	Abs*	Em*
L-21415	Alexa Fluor 488	495	519
L-21416	Alexa Fluor 594	590	617
L-32451	Alexa Fluor 647	650	668

* Approximate absorption (Abs) and emission (Em) wavelengths, in nm.

References

1. Arch Biochem Biophys 177, 330 (1976); **2.** Histochem J 32, 187 (2000); **3.** Histochem J 30, 819 (1998); **4.** Proc Natl Acad Sci USA 95, 7888 (1998); **5.** J Histochem Cytochem 46, 793 (1998); **6.** Histochem J 27, 139 (1995); **7.** J Anat 188, 197 (1996); **8.** J Struct Biol 128, 131 (1999).

Product List *Current prices may be obtained from our Web site or from our Customer Service Department.*

Cat #	Product Name	Unit Size
L-21415	lectin GS-II from *Griffonia simplicifolia*, Alexa Fluor® 488 conjugate	500 µg
L-21416	lectin GS-II from *Griffonia simplicifolia*, Alexa Fluor® 594 conjugate	500 µg
L-32451	lectin GS-II from *Griffonia simplicifolia*, Alexa Fluor® 647 conjugate	500 µg

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21895 Willow Creek Road, Eugene, OR 97402
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Molecular Probes Europe BV
PoortGebouw, Rijnsburgerweg 10
2333 AA Leiden, The Netherlands
Phone: +31-71-5233378 ● Fax: +31-71-5233419

Customer Service: 9:00 to 16:30 (Central European Time)
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