ABSOLUTE LECTINS

05-0134 Aleuria aurantia lectin (AAL)

Benefits

- Ultrapure quality
- Sugar specificity: fucose and terminal fucose residues on complex oligosaccharides and glycoconjugates
- Binding affinity for fucose in all binding positions (α1-2, α1-3, α1-4 and α1-6)
- Higher affinity towards fucosylated oligosaccharides than native AaL
- Not blood group specific

Product description

Recombinant Aleuria aurantia lectin is produced in E.coli and has an amino acid sequence identical to native Aleuria aurantia lectin. AAL is a dimeric lectin with two identical subunits of approximately 36 kDa. Each subunit has five carbohydrate-binding sites (1). The lectin recognizes and binds specifically to fucose and terminal fucose residues on complex oligo saccharides and glycoconjugates. rAAL has binding affinity for fucose in all binding positions (α1-2, α1-3, α1-4 and α1-6) and in contrast to AAL purified from natural sources, rAAL is not contaminated with free fucose yielding higher affinity towards fucosylated oligosaccharides than native AAL (2).

Recombinant AAL hemagglutinates erythrocytes irrespective of blood type (A, B and 0) at the same titters as AAL isolated from natural sources.

AAL has been widely used for analysis and preparation of oligosaccharides and glycoproteins (3). Diagnostic applications include analysis of disease-associated glycosylation on plasma proteins (4). Furhtermore, rAAL can be immobilized and used for affinity chromatography (5).

Applications

- Studies of glycoproteins and glycolipids
- Purification of membrane proteins
- Affinity chromatography
- Agglutination studies

Directions for use

The lectin may be reconstituted with 10 mM HEPES, 0.15 M NaCl, pH 7.5, 0.08 % sodium azide, 0.1 mM Ca++, 0.01 mM Mn++. Spin the vial gently until full dissolution.

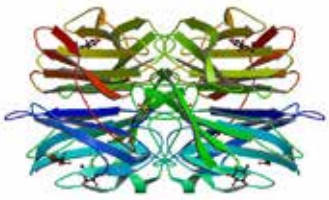

Figure 1: Crystal structure of AAL (1)

Specifications	*Aleuria aurantia lectin (05-0134)*
Appearence	White lyophilized powder or flocculate
Source	Recombinant, E. coli
Molecular weight	2 identical subunits at 34 kDa
Sugar specificity	Fucose and terminal fucose residues on complex oli
Activity	Agglutinates human blodgroup 0 erytrocytes at lectin conc. ≤ 5,0 µg/ml. The agglutination is inhiberas by 4 mM L-fucose at a lectin conc. ≤ 7,0 µg/ml.
Microorganisms	≤ 100 CFU/g
Shelf life	≥ Three years when stored at -20°C

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Tips and hints
Avoid repeated freezing and thawing.

Shipping and storage
The product is shipped at -20°C however for over-the-day transport it may be shipped at ambient temperature. The lyophilized powder is stable for more than three years from production date when stored below -20°C. After reconstitution with HEPES buffer, the solution may be stored frozen in working aliquots for up to 12 months.

Certifications
Medicago's laboratories and manufacturing site in Uppsala is ISO 9001:2015 certified. Each stage of the manufacturing process is controlled and monitored by stringent quality control procedures to guarantee the highest possible quality and lot-to-lot reproducibility.

Ordering information

Article no.	Product name	Pack size
05-0134-2mg	*Aleuria aurantia lectin (AAL)*	*2 mg*
05-0134-100mg	*Aleuria aurantia lectin (AAL)*	*100 mg*
05-0134-1g	*Aleuria aurantia lectin (AAL)*	*1 g*

References

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(2) Olausson J, Tibell L, Jonsson BH, Påhlsson P. Detection of a high affinity binding site in recombinant Aleuria aurantia lectin.Glycoconj J. 2008; 25:753-62.

(3) Yazawa S, Kochibe N, Asao T. A simple procedure for isolation of tumor-associated antigens by affinity chromatography using fucose-specific Aleuria aurantia lectin. Immunol Invest. 1990; 19:319-27.

(4) Hashimoto S, Asao T, Takahashi J, Yagihashi Y, Nishimura T, Saniabadi AR, Poland DC, van Dijk W, Kuwano H, Kochibe N, Yazawa S. alpha1-acid glycoprotein fucosylation as a marker of carcinoma progression and prognosis. Cancer. 2004; 101:2825-36.

(5) Bergström M, Aström E, Påhlsson P, Ohlson S. Elucidating the selectivity of recombinant forms of Aleuria aurantia lectin using weak affinity chromatography. J Chromatogr B Analyt Technol Biomed Life Sci. 2011 [Epub ahead of print]

Art no 24-0418u03, 2020-11

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