ABSOLUTE LECTINS

05-0132 Phaseolus vulgaris lectin L4 (PHA-L4)

Benefits

- Sugar specificity: complex oligosaccharides (1)
- High mitogenic and leucoagglutinating activity (1)
- Very low erythroagglutinating activity

Product description

Phaseolus vulgaris lectin L (PHA-L) is isolated from red kidney beans and purified by affinity chromatography. It is a tetrameric protein with a molecular weight of 126 kDa, each subunit of about 31 kDa. The lectin recognizes and binds specifically to terminal galactose, N-acetylglucosamine and mannose residues of complex glycans on mammalian glycoproteins (1).

PHA-L is also known as leucoagglutinin and has high mitognic and leucoagglutinating activity, but low erythroagglutinating activity (1). The lectin recognizes terminal galactose residues of complex glycans on mammalian glycoproteins such as thyroglobulin (3). PHA-L does not agglutinate human erythrocytes at concentrations of 250 µg/ml or less, and is non-specific for blood groups.

Medicago's PHA-L lectin is supplied as a white lyophilized powder from 10 mM NH_4HCO_3. The purity of the lectin is determined by SDS-PAGE generating one single band at 31 kDa.

It is available in vials or plastic bottles containing lyophilized powder and the product is to be used for laboratory work only.

Applications

- Leucocyte agglutination studies
- Mammalian glycoprotein studies
- Model system to help understand the molecular basis of how proteins recognize carbohydrates

Typical subunit composition

Total L subunit composition: 97-100%
Total E subunit composition: 0-3%

L4 90-100%
L3E1 0-10%

Figure 1: Crystal structure of PHA-L (1)

Specifications	*Phaseolus vulgaris lectin L4 (PHA-L4) (05-0132)*
Appearence	White lyophilized powder or flocculate
Source	Red kidney beans
Molecular weight	126 kDa
Sugar specificity	D-GalNAc
Activity	Agglutinates leucocytes and has mitogenic activity
Microorganisms	≤ 100 CFU/g
Shelf life	≥ Three years when stored at -20°C

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Directions for use
The lectin may be reconstituted in a suitable buffer for your application.

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 deionized water, the solution may be stored frozen in working aliquots for up to 12 months.

Certifications
Medicago's laboratories and manufacturing site in Uppsala are 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
05-0132-2mg	*Phaseolus vulgaris lectin L4*	*2 mg*
05-0132-10mg	*Phaseolus vulgaris lectin L4*	*10 mg*
05-0132-1g	*Phaseolus vulgaris lectin L4*	*1 g*

References

(1) Summers C., Forrest J., Norval M., Sharp J. M. (2002) The potenitally insecticidal Narcissus pseudonarcissus lectin demonstrates age-related mitogenecity. FEMS immunology and medical microbiology vol 33 Issue 1, 47–9.

(2) Van Damme J. M., Allen A. K., Peumans W. J. (2007). Related mannosespecific lectins from different species of the family Amaryllidaceae. Physiologia Plantarum Vol 53, Issue 1, 52–7.

(3) Structure of Narcissus pseudonarcissus lectin complex with Mannobiose at 1.7 A resolution, form II Rizkallah, P.J., Ozbey, S., Sauerborn, M.K. To be Published.

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