



## Phaseolus vulgaris lectin L (PHA-L)



### Features

- Ultrapure quality
- Sugar specificity: complex oligosaccharides
- High mitogenic and leucoagglutinating activity
- Very low erythroagglutinating activity
- Lyophilized powder

### 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).

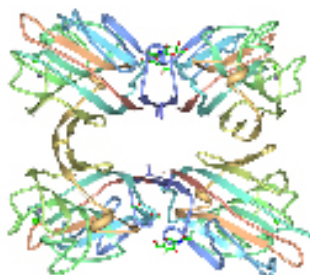


Figure 1: Crystal structure of PHA-L (3)

PHA-L is also known as leucoagglutinin and has high mitogenic 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<sub>4</sub>HCO<sub>3</sub>. 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 1 g, 10 mg or 2 mg of lyophilized powder and the product is to be used for laboratory work only.

### Applications

- Leucocyte agglutination studies
- Mammalian glycoprotein studies
- Model system of how proteins recognize carbohydrates

### Specifications

Appearance	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
Protein content	> 85 %
Identity	SDS-PAGE, one band at 31 kDa
Shelf life	> Three years when stored at -20°C

### Directions for use

The lectin may be reconstituted with 2 ml of deionized water before use, spin the vial gently until full dissolution. The solution may be reconstituted in this buffer to desired working concentration. Aggregation is thought to occur in the presence of high concentrations of 2-mercaptoethanol.

### 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.



# ABSOLUTE LECTINS

## Tips and hints

Avoid repeated freezing and thawing.

## Certifications

Medicago's laboratories and manufacturing site in Uppsala are ISO 9001:2008 and ISO 13485:2003 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.



**Figure 2:** SDS-PAGE, PHA-L. One visible band at 31 kDa.  
Lane 1 and 8: MW marker  
Lane 2-7: Lot specific PHA-L

30 kDa  
20 kDa  
10 kDa

## Ordering information

Article no.	Product name	Pack size
05-0132-1000	<i>Phaseolus vulgaris</i> lectin L	1 g
05-0132-10	<i>Phaseolus vulgaris</i> lectin L	10 mg
05-0132-2	<i>Phaseolus vulgaris</i> lectin L	2 mg

## References

- (1) Summers C., Forrest J., Norval M., Sharp J. M. (2002) The potentially 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 mannose-specific 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 Å resolution, form II Rizkallah, P.J., Ozbey, S.,