

# ABSOLUTE LECTINS

## 05-0131 Phaseolus vulgaris lectin E (PHA-E)



### Benefits

- Sugar specificity: complex oligosaccharides (1)
- High erythroagglutinin activity (1)
- High activity

### Product description

Phaseolus vulgaris lectin (PHA-E) is isolated from red kidney beans and purified by affinity chromatography and ion-exchange chromatography. It is a tetrameric protein with a molecular weight of 128 kDa. The lectin recognizes and binds specifically to terminal galactose, N-acetylglucosamine and mannose residues of complex glycans on mammalian glycoproteins (1).

Because of its strong erythrocyte agglutinating activity, PHA-E is also known as Erythroagglutinin. PHA-E is not blood group specific (2). Less than 5 µg/ml agglutinates human erythrocytes of type O and agglutination can be inhibited by certain oligosaccharides.

Medicago's PHA-E lectin is supplied as a white lyophilized powder from 50 mM NH<sub>4</sub>HCO<sub>3</sub>. The purity of the lectin is determined by SDS-PAGE, which generate one single band at 34 kDa. It is available in vials containing 5 mg or plastic bottles containing 1 g of lyophilized powder and the product is to be used for laboratory work only.

### Applications

- Erythrocyte agglutination studies
- Model systems to help understand the molecular basis of how proteins recognize carbohydrates

### 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.

### 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 five 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.

Specifications	Phaseolus vulgaris lectin E (PHA-E)
Appearance	White lyophilized powder
Source	Red kidney beans
Molecular weight	128 kDa
Sugar specificity	β-D-Gal-(1-3)-D-GalNAc
Activity	Less than 5 µg/ml will agglutinate human erythrocytes type O.
Microorganisms	≤ 100 CFU/g
Shelf life	≥ Five years when stored at -20°C

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### 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
05-0131-5mg	<i>Phaseolus vulgaris lectin E</i>	5 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 man-nosespecific 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., Sauerborn, M.K. To be Published.