



### **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  $\mu$ g/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 NH4HCO3. 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)
Appearence	White lyophilized powder
Source	Red kidney beans
Molecular weight	128 kDa
Sugar specificity	ß-D-Gal-(1-3)-D-GalNAc
Activity	Less than 5 $\mu g/ml$ will agglutinate human erythrocytes type O.
Microorganisms	≤ 100 CFU/g
Shelf life	≥ Five years when stored at -20°C





#### 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 Phaseolus vulgaris lectin E

#### 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.

5 mg