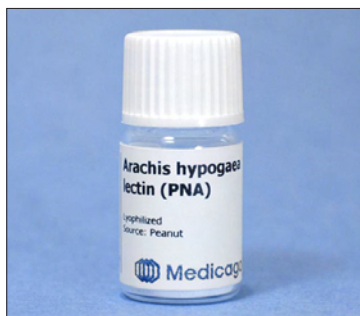


Arachis hypogaea lectin (PNA, Peanut Agglutinin)



Features

- Ultrapure quality
- Strong anti-T activity
- Sugar specificity: β -D-Gal-(1-3)-D-GalNAc
- Agglutinates rabbit erythrocytes at $< 0.1 \mu\text{g/ml}$ after trypsin treatment of the cells
- Lyophilized powder

Product description

Arachis hypogaea lectin or Peanut Agglutinin (PNA) is isolated from peanuts and purified by affinity chromatography. The lectin has a molecular weight of 110 kDa and consists of four identical subunits of approximately 27 kDa each (1).

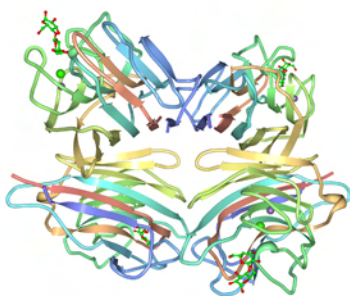


Figure 1: Crystal structure of peanut lectin (2)

PNA is a carbohydrate-free protein that displays specificity towards β -D-Gal(1-3)-D-galNAc (3). It has potent anti-T activity and can be used to distinguish between human lymphocyte subsets. PNA has been used in tumour tissue determination for transitional mucosa malignancies. The lectin agglutinates rabbit erythrocytes at $< 0.1 \mu\text{g/ml}$ after trypsin treatment of cells and its activity is inhibited by lactose and galactose (1).

Medicago's PNA lectin is provided as a white to light-yellow lyophilized powder from 10 mM NH_4HCO_3 . The purity is determined by SDS-PAGE, which generates one major band at 25-27 kDa. The lectin is available in vials containing 50 mg or 10 mg lyophilized powder and the product is to be used for laboratory work only.

Applications

- Probe in histochemistry and immuno-histochemistry
- Human erythrocyte/lymphocyte subset studies

Specifications

Appearance	White to light-yellow lyophilized powder
Source	Peanuts
Activity	Agglutinates rabbit erythrocytes at $< 0.1 \mu\text{g/ml}$. Agglutination fully inhibited by 10 mM D-galactose
Microorganisms	$< 100 \text{ CFU/g}$
Protein content	$> 95\%$
Purity	SDS-PAGE, one major band at 25-27 kDa
Shelf life	$> \text{Three years}$ when stored at -20°C

Directions for use

The lectin may be reconstituted with 2 ml of sterile PBS buffer, pH 7.4 before use, spin the vial gently until full dissolution.

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



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.

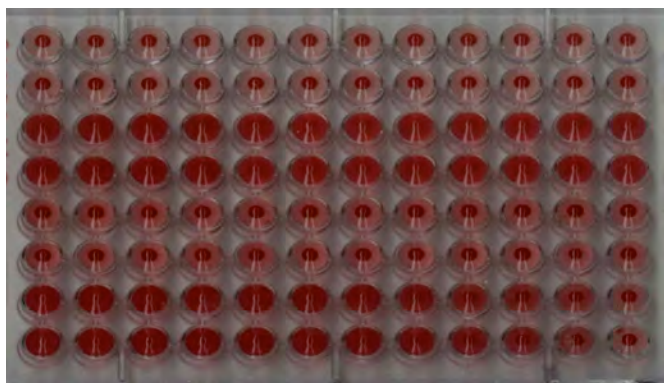


Figure 2: Haemagglutination and inhibition using PNA, carried out in a 2 % rabbit erythrocytes solution (distilled water, 0.9% NaCl solution).
 Lane A & B: Negative control, blood-saline solution, no haemagglutination.
 Lane C & D: Positive control, haemagglutination with PNA
 Lane E & F: Inhibition of haemagglutination with 10 mM D-Galactose.
 G & H: Inhibition of haemagglutination with 100 mM D-Galactose.
 C to H, 1-12: Lectin titration 300 µg/ml to 0.15 µg/ml.

1 2 3 4 5 6 7

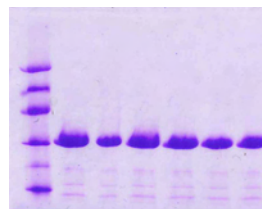


Figure 3: SDS-PAGE, PNA lectin.

One major band at 25-27 kDa.

Lane 1: MW marker

Lane 2, 3, 4, 5, 6 and 7: Lot specific PNA lectin.

Ordering information

Article no.	Product name	Pack size
A05-0116-50	<i>Arachis hypogaea</i> lectin (PNA)	50 mg
A05-0116-10	<i>Arachis hypogaea</i> lectin (PNA)	10 mg

(1) The purification, composition, and specificity of the anti-T lectin from peanut (*Arachis hypogaea*). R Lotan, E Skutelsky, D Danon and N Sharon. J. Biol. Chem Vol. 250, No. 21

(2) Conformation, protein-carbohydrate interactions and a novel subunit association in the refined structure of peanut lectin-lactose complex. Banerjee, R., Das, K., Ravishankar, R., Suguna, K., Suroliya, A., Vijayan, M. (1996) J.Mol.Biol. 259: 281-96.

(3) Liener I. E., Sharon N., Goldstein I. J., (1986) The Lectins – Properties, Functions and Applications in Biology and Medicine.