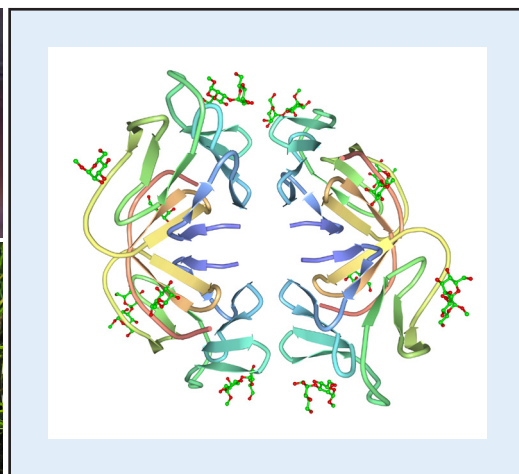


Absolute Lectins

Biospecific Tools

for Glycoscience



Absolute Lectins

Medicago is a developer and one of the world's few primary manufacturers of a wide variety of exceptionally pure lectins. Lectins are commonly found in grains, beans, dairy products and also in fungi and plants.

- Purified by biospecific affinity chromatography
- Highest activity & superior specificity
- Validated applications
- Recombinant lectins
- Stable lyophilized product
- Lectin conjugates
- Custom lectin development
- Bulk and OEM solutions

Absolute Lectins - Exceptionally Pure with Highest Activity

Lectins are sugar-binding proteins that are highly specific for certain carbohydrate moieties. They are known to bind to structures in cell walls or membranes, thereby causing agglutination, mitosis or other biochemical changes in the cell. These reactions may be inhibited by mono- and oligosaccharides, which inhibit attachment to cell membranes.

Medicago's range of lectins covers lectins with specificity for α -D-mannose, α -D-glucose and other oligosaccharides shown in the table below. Lectins need to meet a high number of criteria in terms of purity and activity (ability to bind the specific carbohydrates). Medicago's lectins are purified by biospecific affinity chromatography and are extensively tested with SDS-PAGE, isoelectric focusing, spectrophotometry and agglutination assays.

Absolute Lectins - Validated for a Wide Range of Applications

Medicago's lectins are used in many applications in medicine, medical research and biochemistry as shown in the selection table below.

Purified lectins are important in clinical diagnostics and they are used for blood group typing, enzyme linked lectin assay (ELLA) and lateral flow diagnostics. Some of the glycolipids and glycoproteins on red blood cells can be identified by lectins. In medical research, lectins such as PHA or Con A, have been widely used as model systems to understand the molecular basis of how proteins recognize carbohydrates. Other applications include histochemical studies, lymphocyte subpopulations, cell fractionation and mitogenic stimulation studies. Also hormone receptor, HIV/AIDS research, other virus receptor and cancer studies are known applications.

Selection Table for Absolute Lectins

	Source	Mol. Wt. (kDa)	Subunits	Sugar specificity
<i>Arachis hypogaea</i> (PNA)	Peanut	110	4	β -gal(1 \rightarrow 3)g
<i>Artocarpus integrifolia</i> (Jacalin)	Jackfruit	66	4	α -gal \rightarrow OMe
Concanavalin A (Con A)	Jack bean	104	4	α -man, α -gl
<i>Crotalaria juncea</i>	Sunn hemp seed	124	4	Gal > GalNAc
<i>Galanthus nivalis</i> (GNA)	Snowdrop bulb	52	4	non-reduc. f
<i>Glycine max</i> (SBA)	Soy bean	120	4	galNAc
<i>Lens culinaris</i> (LCA/LcH)	Lentil	46	2	α -man > α -g
<i>Narcissus pseudonarcissus</i> (NPA/NPL)	Daffodil/Lent lily	26	2	α -D-man
<i>Phaseolus vulgaris</i> (PHA-E)	Kidney bean	128	4	oligosacchar
<i>Phaseolus vulgaris</i> (PHA-L)	Kidney bean	126	4	oligosacchar
<i>Phaseolus vulgaris</i> (PHA-P)	Kidney bean	128	4	oligosacchar
<i>Pisum sativum</i> (PSA)	Pea	49	4(α & β) (a)	α -man > α -g
<i>Triticum vulgaris</i> (WGA)	Wheat germ	36	2	(glcNAc) ₂ , N
<i>Vicia ervilia</i> (VEA)	Bitter vetch	53	$\alpha_2\beta_2$	α -Man > α -c
<i>Aleuria aurantia</i> (AaL)	Fungus	36	2	α -Fuc

Abbreviations: a - Lectin has subunits of different molecular weight, b - Lectin agglutinates rabbit, but not human, erythrocytes

Lectins are also used as biochemical separation tools. For instance Con A and WGA have been widely used in affinity chromatography for purifying glycoproteins (for example IgA and human plasma glycoproteins) glycolipids, cells and viruses. In general, proteins may be characterized with respect to glycoforms and carbohydrate structure by using lectins in affinity chromatography, affinity electrophoresis and immunoelectrophoresis, and blotting.

Absolute Lectins - Reproducibility and Consistency Every Time

Medicago is one of the world's few primary manufacturers and a developer of extremely pure lectins. Our laboratories and manufacturing site are ISO 9001:2008 and ISO 13485:2003 certified. Each stage of the lectins manufacturing process is controlled and monitored by stringent quality control procedures to guarantee the highest possible quality and lot-to-lot reproducibility.

Absolute Lectins - Get Exactly What You Want

Our state-of-the-art laboratories and purification techniques, our extensive expertise in the development and manufacturing of lectins and conjugates, make us a unique partner for custom-made solutions.

We manufacture from small to large scale according to customer specifications. We can accommodate a wide variety of requests from milligrams to kilograms, manufacture special batches with unique specifications in any format (lyophilized or liquid solutions) or formulation. Medicago is recognized as a world-class, trusted and flexible partner with short decision and lead times, and a proven record for the highest quality, cost efficiency and delivery.

Lectins-on-Demand

Besides our standard range we can provide the following lectins, among others, on a demand basis. Please contact Medicago for further information.

<i>Agaricus bisporus</i> (ABA)	<i>Datura stramonium</i> (DSL)	<i>Maclura pomifera</i> (MPL)	<i>Solanum tuberosum</i> (STL, STA)
<i>Bandeiraea Simplicifolia</i>	<i>Dolichos biflorus</i> (DBA)	<i>Phaseolus coccineus</i> (PCA)	<i>Tetragonolobus purpureas</i> (LTL)
<i>Bandeiraea Simplicifolia</i> (BS-I)	<i>Euonymus europaeus</i> (EEL)	<i>Phytolacca americana</i> (PWM, PWA)	<i>Ulex Europaeus</i> (UEA I)
<i>Bandeiraea Simplicifolia</i> (BS-I-A4)	<i>Helix aspersa</i> (HAA)	<i>Pseudomonas aeruginosa</i> (PA-I)	<i>Vicia faba</i> (VFA)
<i>Bandeiraea Simplicifolia</i> (BS-I-B4)	<i>Helix pomatia</i> (HPA)	<i>Pseudomonas aeruginosa</i> (PA-III)	<i>Vicia villosa</i> (VVL, VVA)
<i>Caragana arborescens</i> (CAA)	<i>Lycopersicon esculentum</i> (LEL)	<i>Psophocarpus tetragonolobus</i> (PTA)	<i>Wisteria floribunda</i> (WFA, WFL)
<i>Cicer arietinum</i> (CPA)	<i>Maackia amurensis</i> (MAA)	<i>Sambucus nigra</i> (SNA, EBL)	

Lectin	Agglutination	Mitogenic activity	Examples of applications
GalNAc	T		Lymphocyte subset studies, lymphoid cell populations in diseases
Con A	T	x	Isolation of human IgA and plasma glycoproteins
Con B	—	x	Hormone receptor studies, affinity chromatography
WGA	—	x	Studies of virus surface glycoproteins
Con D-man	(b)		HIV research
Con E	—	x (c)	Blood group agglutination and glycoprotein studies
Con G	—	x	Hemagglutination and cell agglutination studies
Con L	(b)	x	Mitogenic studies of human lymphocytes
Con P	—	x	Erythrocyte agglutination studies
Con R	—	x	Leucocyte agglutination studies, mammalian glycoprotein studies
Con S	—		Lateral flow erythrocyte separation
Con T	—	x	Protein-carbohydrate interaction studies
Con U	—	x	Studies of glycoproteins and lipids, affinity chromatography
Con V	—		Membrane protein studies
Con W	—		Diagnostics of liver diseases

c - Lectin is mitogenic for lymphocytes treated with neuramidase

Ordering Information

Product name	Pack size	Article no.
<i>Arachis hypogaea</i> lectin (PNA)	50 mg	05-0116-50
<i>Arachis hypogaea</i> lectin (PNA)	10 mg	05-0116-10
<i>Artocarpus integrifolia</i> lectin (Jacalin)	100 mg	05-0133-100
<i>Artocarpus integrifolia</i> lectin (Jacalin)	10 mg	05-0133-10
Concanavalin A lectin (Con A)	250 mg	05-0106-250
Concanavalin A lectin (Con A)	100 mg	05-0106-100
<i>Crotalaria juncea</i> lectin	50 mg	05-0105-50
<i>Crotalaria juncea</i> lectin	10 mg	05-0105-10
<i>Galanthus Nivalis</i> lectin (GNA)	5 mg	05-0120-5
<i>Glycine Max</i> lectin (SBA)	50 mg	05-0117-50
<i>Glycine Max</i> lectin (SBA)	10 mg	05-0117-10
<i>Lens culinaris</i> lectin (LCA/LcH)	100 mg	05-0104-100
<i>Lens culinaris</i> lectin (LCA/LcH)	25 mg	05-0104-25
<i>Lens culinaris</i> lectin (LCA/LcH)	10 mg	05-0104-10
<i>Narcissus Pseudonarcissus</i> lectin (NPA/NPL)	50 mg	05-0119-50
<i>Narcissus Pseudonarcissus</i> lectin (NPA/NPL)	10 mg	05-0119-10
<i>Phaseolus vulgaris</i> E lectin (PHA-E)	5 mg	05-0131-5
<i>Phaseolus Vulgaris</i> L lectin (PHA-L)	10 mg	05-0132-10
<i>Phaseolus Vulgaris</i> L lectin (PHA-L)	2 mg	05-0132-2
<i>Phaseolus Vulgaris</i> P lectin (PHA-P)	5 mg	05-0115-5
<i>Phaseolus Vulgaris</i> P lectin (PHA-P)	10 mg	05-0115-10
<i>Pisum sativum</i> lectin (PSA)	100 mg	05-0111-100
<i>Pisum sativum</i> lectin (PSA)	25 mg	05-0111-25
<i>Pisum sativum</i> lectin (PSA)	10 mg	05-0111-10
<i>Triticum vulgare</i> lectin (WGA)	100 mg	05-0102-100
<i>Triticum vulgare</i> lectin (WGA)	25 mg	05-0102-25
<i>Triticum vulgare</i> lectin (WGA)	10 mg	05-0102-10
<i>Vicia ervilia</i> lectin (VEA)	50 mg	05-0114-50
<i>Vicia ervilia</i> lectin (VEA)	10 mg	05-0114-10
NEW! <i>Aleuria aurantia</i> lectin (AAL)	2 mg	05-0134-2

For more information about our lectins or for bulk quotations please call +46 18 56 11 80, email to bulk@medicago.se or visit www.medicago.se/lectins

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