

CERTIFICATE OF ANALYSIS

Product name:	Lens culinaris lectin
Production date:	2021-03
Date of release:	2021-04-09
Retested date:	2025-11-11*
Expiration date:	2028-05
Form:	Lyophilized powder

Analysis	Specification	Result
Appearance	White to off-white	Pass
Solubility	Dissolves in distilled water and 0.9% NaCl	Pass
Protein content	≥ 85% (A280), E 1mg/ml=1.34	89,7 %
Identity	Two major bands corresponding to the two isomers LCA-A and LCA-B (IEF).	Pass* Appendix 1.
Activity	Minimum lectin concentration required for complete agglutination of a 2% human electrolyte, bloodgroup O, suspension is ≤ 10 µg/ml. The agglutination activity is inhibited by 20mM methylmannoside, at a lectin concentration of ≤ 167 µg/ml	Pass* Appendix 2.
UV scan	Typical appearance of Lens culinaris lectin at 700-230 nm.	Pass Appendix 3.
Microbiology	< 100 CFU/g	Pass

Appendixes:
1. IEF electrophoresis*
2. Haemagglutination*
3. UV Scan 700-230nm

The above material has met all quality specifications and has been reviewed by a quality representative.


Quality Assurance, Asa Engström

2026-01-15

Date

Appendix 1: IEF electrophoresis

IEF analysis *Lens culinaris* lectin, Lot 264427-01

Isoelectric focusing using Pharmacia Phastsystem (Amersham Biosciences).

Materials

Phastgel IEF 3-9

Reference proteins pH 3.5 – 9.3 (IEF Std)

Amylglucosidase -	3.50 pI
Methyl red (dye) -	3.75 pI
Trypsin inhibitor -	4.55 pI
b-Lactoglobulin A -	5.20 pI
Carbonic anhydrase B (bovine) -	5.85 pI
Carbonic anhydrase B (human) -	6.55 pI
Myoglobin, acidic band -	6.85 pI
Myoglobin, basic band -	7.35 pI
Lentil lectin, acidic -	8.15 pI
Lentil lectin, middle -	8.45 pI
Lentil lectin, basic -	8.65 pI
Trypsinogen -	9.30 pI

Method

The proteins were diluted to 4 mg/ml in milliQ water supplemented with 30 % saccharose. The gels were fixed for 5 min, washed and stained with IEF staining sol. for 10 min at 50°C and then destained.

Program

Sample applicator down at	2.2	0Vh				
Sample applicator up at	2.3	0Vh				
SEP 2.1	2000V	2.5mA	3.5W	15°C	75Vh	
SEP 2.2	200V	2.5mA	3.5W	15°C	15Vh	
SEP 2.3	2000V	2.5mA	3.5W	15°C	410Vh	

Result

1 2 3 4 5 6 7 8



Lane 1	Tom
Lane 2	IEF standard pH 3.5 – 9.3 lot 310704
Lane 3-4	Lot 262814 (reference)
Lane 5-6	Lot 264427-01 (prov)
Lane 7	IEF standard pH 3.5 – 9.3 lot 310704
Lane 8	Tom

Analysis performed by

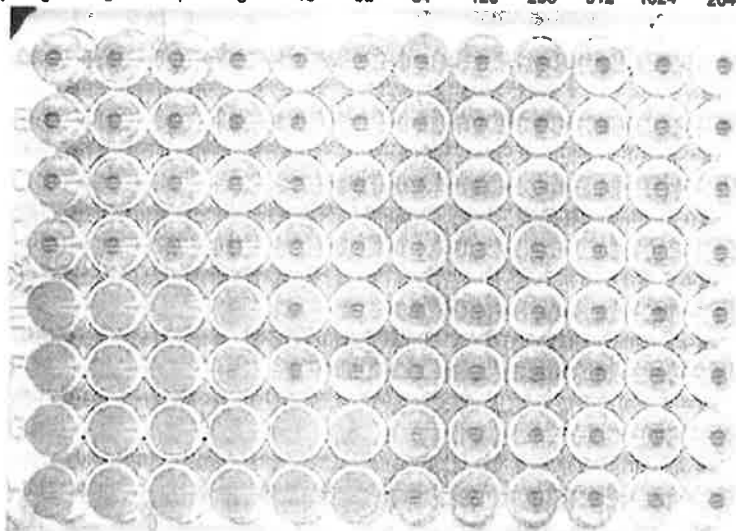

Julia Carlsson / 2025-11-11

Appendix 2: Activity, Haemagglutination control

**Haemagglutination (human blood, group 0), Lot 264427-01
omanalysis**

***Lens culinaris* agglutinin (LCA)**

Column 1	2	3	4	5	6	7	8	9	10	11	12	
Conc	333	167	83	42	21	10	5.2	2.6	1.3	0.6	0.3	0.16
Titer	0	2	4	8	16	32	64	128	256	512	1024	2048
												µg/mL



Row A,B Blank
Row C,D With 20 mM α -methyl-D-mannosid
Row E,F With 2 mM α -methyl-D-mannosid
Row G,H Only lectin without α -methyl-D-mannosid (agglutination control)

Plate scanned:

Signature:

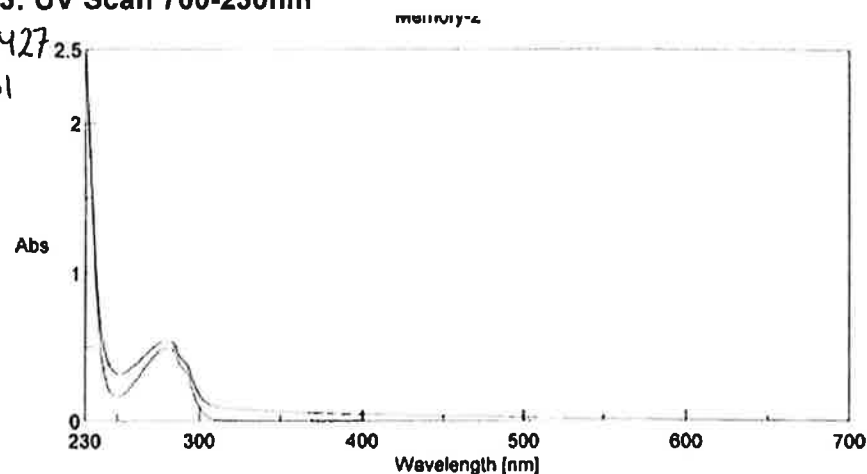
Salah Ahmed
Salah Ahmed / 2025-11-12

Appendix 3: UV Scan 700-230nm

Lotnr: 264427

2021-03-31

/HeBr



(Comments)		Memory-2
Sample name	LCA lot 264427	- Memory-4
Comment		
User		
Division		
Company	Medicago	

(Detailed Information)	
Creation date	2021-03-31 13:41
Date modified	2021-03-31 13:42

Data array type	Linear data array
Horizontal axis	Wavelength [nm]
Vertical axis	Abs
Start	700 nm
End	230 nm
Date interval	0.5 nm
Data points	841

(Measurement Information)	
Instrument name	Jasco UV Vis
Model name	V-780
Serial No.	A011061800

Accessory	USE-753
Accessory S/N	A011061800
Cell	
Ref. beam	

Measurement date	2021-03-31 13:41
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Parameter file	C:\Program Files (x86)\JASCO\SpectraManager\samples\230-700.uvsp
Photometric mode	Abs
Measurement range	700 - 230 nm
Data interval	0.5 nm
Bandwidth	2.0 nm
Response	0.06 sec
Scan speed	1000 nm/min
Change source at	340 nm
Light source	D2/WI