Art no: 05-0115

Lot no: 254502

CERTIFICATE OF ANALYSIS

Product name:	**PHA-P Lectin**
Production date:	2019-11
Date of release:	2020-03-17
Stability:	2024-11
Source:	*Phaseolus Vulgaris* beans (Red Kidney Beans)
Form:	Lyophilized
Storage:	-18 °C (may be shipped at ambient temp)

Analysis	**Specification**	**Result**
Appearence	White powder or flocculate by visual inspection resulting in a clear solution.	Fulfills requirement
Solubility	Dissolves in PBS buffer pH 7.4 within 5 minutes.	Fulfills requirement
Assay (%)	> 85 % by OD_{280}nm (ε 1mg/ml = 1,14) in PBS pH 7.4 after filtration through 0.2 µm acetate membrane.	93,8 %, fulfills requirement
Electrophoresis	One major band in SDS-electrophoresis, comparable to reference sample.	Fulfils requirement, see appendix 1.
Bacterial burden	Less than 10^2 CFU per 1 g of solid substance.	00 CFU/g, fulfills requirement
Haemagglutination	Agglutinates human blood group 0 at a concentration ≤ 4 µg/mL	1,0 µg/mL, fulfills requirement, see appendix 2.

Appendixes:
1. SDS-PAGE
2. Haemagglutination

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

Camilla Krig

Quality Assurance, Camilla Krig

2020-03-17

Date

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Appendix 1

Bilaga 1, tillhör M-00230

SDS PAGE, analysis of PHA-P lot 254502

Electrophoresis with Pharmacia Phastsystem (Amersham Biosciences)

Material

Phast gel gradient 8 – 25
Phast gel SDS buffer strips

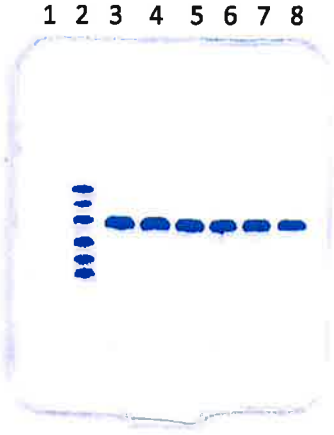
Method

The proteins were dissolved to 2 mg/ml 1:1 in 0,9 % NaCl and loading buffer (10 mM TRIS/HCL, 1 mM EDTA, 2.5 % SDS, 50 mM DTT).
LMW marker was from LMW SDS calibration kit for SDS electrophoresis (GE Healthcare).
MW of proteins included in LMW (14 000 Da - 97 000 Da) marker:

α-Lactalbumin	14 400
Trypsin inhibitor	20 100
Carbonic anhydrase	30 000
Ovalbumin	45 000
Albumin	66 000
Phosphorylase b	97 000

The samples were heated for 5 min. and approx. 1 µl was applied on Phast gel (gradient 8 – 25).
Program; 300v, 7.5 mA, 2.0 W, 80 Vh.
The gels were stained with Coomassie blue for 30 min and then destained.

Result



Lane 1	empty
Lane 2	LMW
Lane 3, 4	PHA-P lot 254502
Lane 5, 6	PHA-P lot 254704
Lane 7, 8	PHA-P ref lot 233307

Analysis performed by 2020-02-26 /ME

Maja Ericsson, 2020-02-26

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Appendix 2

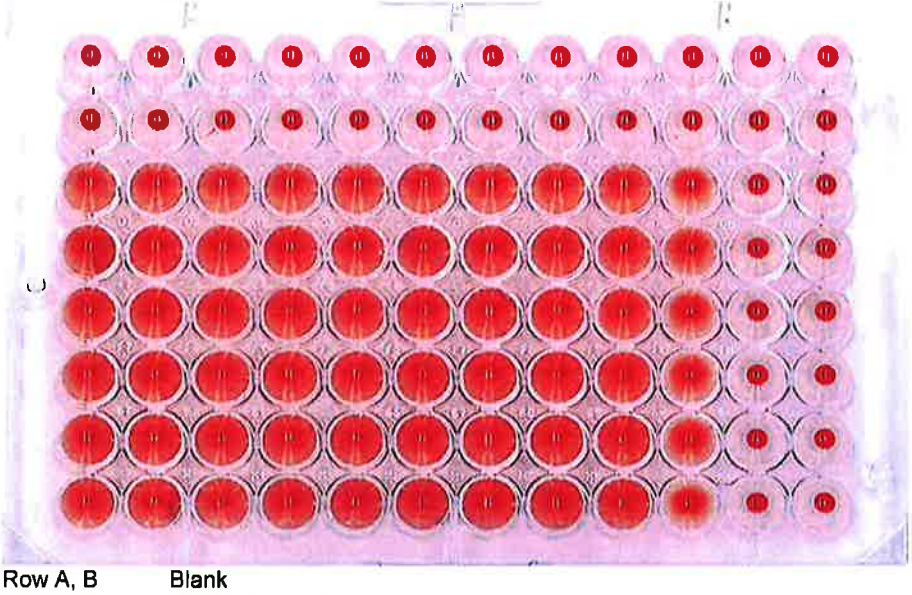
Bilaga 1, tillhör M-00030

Haemagglutination (human blood group 0)

Lectin from Phaseolus vulgaris (red kidney bean),

Phytohemagglutinin (PHA)-P Art.nr: 05-0115, lot: (254713, 254704, and 254502).

Column	1	2	3	4	5	6	7	8	9	10	11	12
Conc	500	250	125	63	31	16	7.8	3.9	2.0	1.0	0.5	0.2 µg/ml



Row A, B	Blank
Row C, D	PHA-P lot 254713
Row E, F	PHA-P lot 254704
Row G, H	PHA-P lot 254502

Comment: In row E no lectin added in column 2. Therefore, no agglutination is visible

Date: 2020-01-08 / SA

Signature: _____