

Art no: 05-0115

Lot no: 233307

## CERTIFICATE OF ANALYSIS



Product name:	<b>PHA-P Lectin</b>
Production date:	2017-09
Date of release:	2017-10-19
Stability:	2022-09
Source:	<i>Phaseolus Vulgaris</i> beans (Red Kidney Beans)
Form:	Lyophilized
Storage:	-18 °C (may be shipped at ambient temp)

Analysis	Specification	Result
Appearance	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 (%)	> 75 % by OD <sub>280nm</sub> ( $\epsilon$ 1mg/ml = 0,96) in PBS pH 7.4 after filtration through 0.2 $\mu$ m acetate membrane.	97.1 %, fulfills requirement
Electrophoresis	One major band in SDS-electrophoresis, comparable to reference sample.	Fulfills requirement, see appendix 1.
Bacterial burden	Less than 10 <sup>2</sup> CFU per 1 g of solid substance.	14 CFU/g, fulfills requirement
Haemagglutination	Agglutinates human blood group 0 at a concentration $\leq$ 4 $\mu$ g/mL	3.9 $\mu$ g/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.



2017-10-19

Quality Assurance, Sofia Berggren

Date

## SDS PAGE, analysis of PHA-P, lot 233307

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 in loading buffer (10 mM TRIS/HCL, 1 mM EDTA, 2.5 % SDS, 50mM 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:

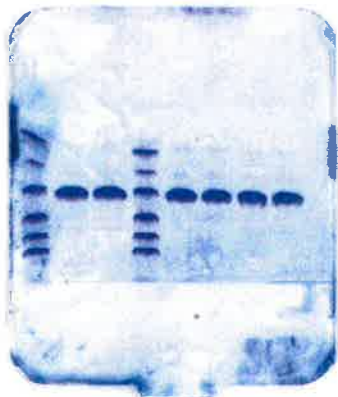
Phosphorylase b	97 000
Albumin	66 000
Ovalbumin	45 000
Carbonic anhydrase	30 000
Trypsin inhibitor	20 100
$\alpha$ -Lactalbumin	14 400

The samples were boiled for 5 min. and approx. 1.0  $\mu$ l 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

1 2 3 4 5 6 7 8



**Lane 1.** LMW mol marker

**Lane 2.** PHA-P Lot 233307

**Lane 3.** PHA-P Lot 233307

**Lane 4.** LMW mol marker

**Lane 5.** PHA-P Lot 233801

**Lane 6.** PHA-P Lot 233801

**Lane 7.** PHA-P Lot 223103 (reference)

**Lane 8.** PHA-P Lot 223103 (reference)

Analysis performed by

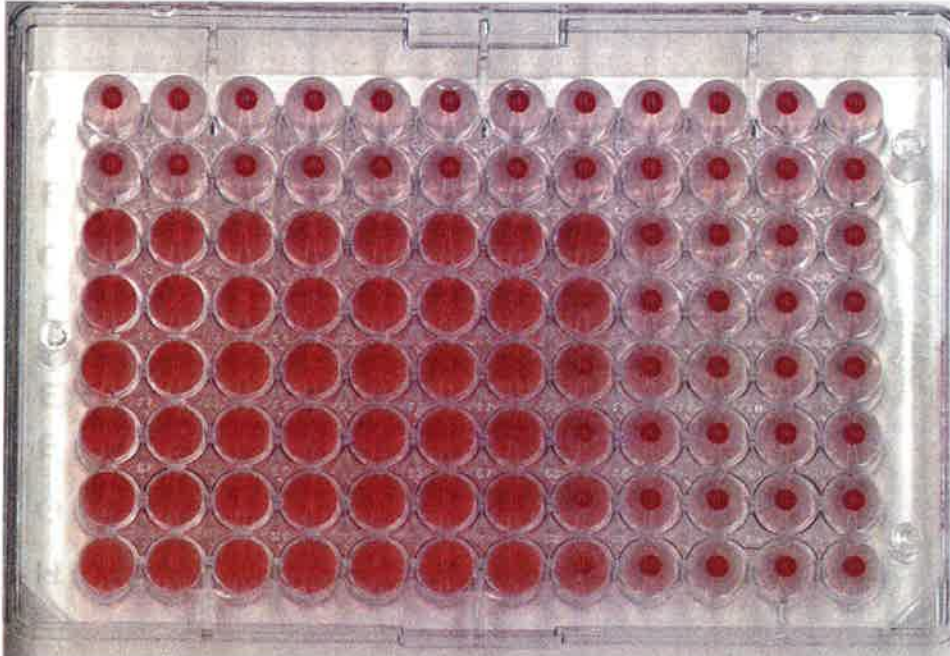
  
Doreen Heinrich, 2017-09-28

**Haemagglutination (human blood, group 0), lot 233307**

**Lectin from Phaseolus vulgaris (red kidney bean), Phytohemagglutinin (PHA)-P**

**Article No 05-00115**

Column	1	2	3	4	5	6	7	8	9	10	11	12
Conc	500	250	125	62	31	16	7.8	3.9	1.9	0.9	0.5	0.2 µg/ml



Row A,B      Blank  
Row C-H      lot 233307

Date: 2017-09-21

Signature: 