



Product name:	Calmodulin
Production date:	2023-03
Date of release:	2023-05-02
Stability:	2028-03
Form:	Lyophilized
Source:	Bovine testicles

Analysis	Specification	Result
Appearance	White powder or flocculate by visual inspection resulting in a clear solution	Fulfills requirement
Solubility	Dissolves in deionized water within 5 minutes (2mg/ml)	Fulfills requirement
Assay (%)	At least 80% by amino acid analysis	91.52%, fulfills requirement
UV Scan	0.36-0.55 at 277 nm	A ₂₇₇ 0.2% = 0.5078 Fulfills requirement UV Scan Fulfills requirement, see appendix 2.
Electrophoresis	One major band at 16.68kDa in SDS-electrophoresis, comparable to reference sample.	Fulfills requirement, see appendix 1.
Bacterial burden	Less than 10 ² CFU per 1 g of solid substance	21,74 CFU/g, fulfills requirement

Appendixes:

1. SDS-PAGE
2. UV scan
3. Amino acids analysis report

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

Quality Assurance, Sebastian Määttä

2023-05-02

Date

**Appendix 1: SDS-PAGE****SDS PAGE analysis Calmodulin lot 291004**

Electrophoresis with Pharmacia Phast system (Amersham Biosciences)

Material

Phast gel gradient 8 – 25
Phast gel SDS buffer strips

Method

The proteins were dissolved at 2 mg/ml 1:1 in deionized water and loading buffer (10,9 mM TRIS/HCL, 1,1 mM EDTA, 2.7 % 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:

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

The samples were boiled for 5 min. and approx. 1.0 μ 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, 8	Empty	
Lane 2, 5	Lot: 290717	LMW standard
Lane 3, 4	Lot: 291004	Calmodulin prov
Lane 6, 7	Lot: 251602	Calmodulin reference

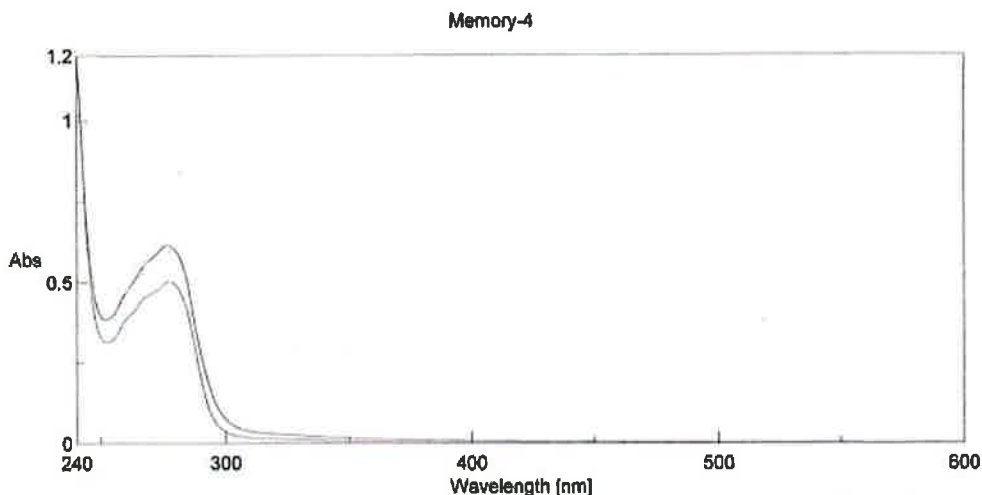
Analysis performed by


Salah Ahmed / 2023-03-15



Intertek

Appendix 2.1: UV scan



[Comments]
 Sample name Calmodulin Referens
 Comment lot 152105
 User CH
 Division QC
 Company Medicago

Memory-2
 Memory-4

[Detailed Information]
 Creation date 2023-03-14 12:13
 Date modified 2023-03-14 12:14

Data array type Linear data array
 Horizontal axis Wavelength [nm]
 Vertical axis Abs
 Start 600 nm
 End 240 nm
 Data interval 1 nm
 Data points 361

[Measurement Information]
 Instrument name Jasco UV Vis
 Model name V-760
 Serial No. A011061800

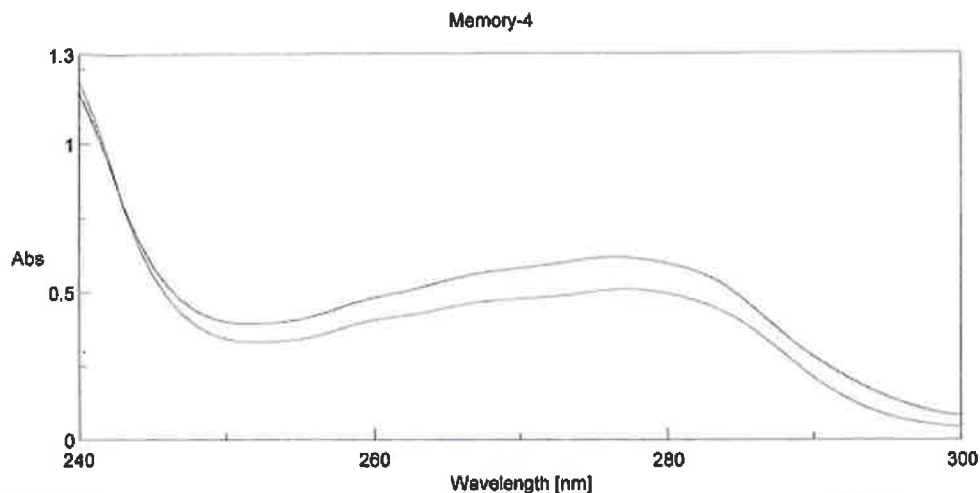
Accessory USE-753
 Accessory S/N A011061800
 Cell
 Ref. beam

Measurement date 2023-03-14 12:13

Parameter file C:\Program Files (x86)\JASCO\SpectraManager\samples\240-600.uvsp
 Photometric mode Abs
 Measurement range 600 - 240 nm
 Data interval 1 nm
 Bandwidth 2.0 nm
 Response 0.06 sec
 Scan speed 1000 nm/min
 Change source at 340 nm
 Light source D2/WI
 Filter exchange Step
 Correction Baseline



Appendix 2.2: UV scan



[Comments]
 Sample name Calmodulin referens
 Comment lot 152105
 User CH
 Division QC
 Company Medicago

Memory-2
 Memory-4

[Detailed Information]
 Creation date 2023-03-14 16:51
 Date modified 2023-03-14 16:52

Data array type Linear data array
 Horizontal axis Wavelength [nm]
 Vertical axis Abs
 Start 300 nm
 End 240 nm
 Data interval 1 nm
 Data points 61

[Measurement Information]
 Instrument name Jasco UV Vis
 Model name V-760
 Serial No. A011081800

Accessory USE-753
 Accessory S/N A011081800
 Cell
 Ref. beam

Measurement date 2023-03-14 16:51

Parameter file C:\Program Files (x86)\JASCO\SpectraManager\samples\240-300.uvsp
 Photometric mode Abs
 Measurement range 300 - 240 nm
 Data interval 1 nm
 Bandwidth 2.0 nm
 Response 0.08 sec
 Scan speed 1000 nm/min
 Change source at 340 nm
 Light source D2/WI
 Filter exchange Step
 Correction Baseline