



Client(s): Origin Labs I

Certified: 10/25/2026

This Certificate of Analysis certifies that the sample listed herein was tested by Kovera Labs using validated analytical methods and was found to meet the stated specifications at the time of analysis.

SAMPLE INFORMATION

Product	Glutathione	Form	Lyophilized Powder
Batch	OL-GTT1500-002	Labeled Qty	1500 mg
Cap Color	Black	Crimp Color	Silver

TEST RESULTS

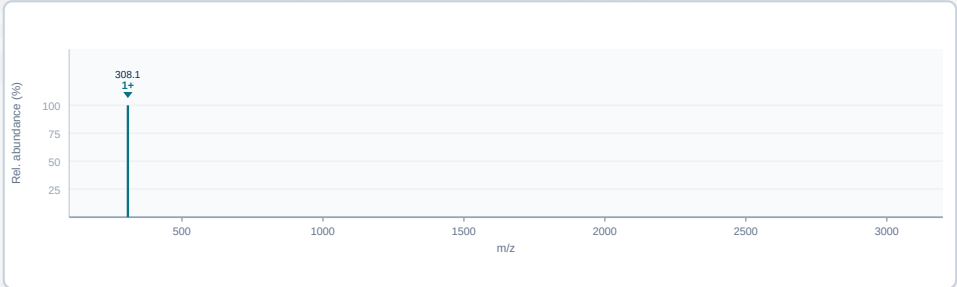
	REFERENCE STANDARD	RESULT
Batch Avg Purity	(>98%)	99.802%
Batch Avg Net Content	(~1500mg)	1502.92 mg
Identity Confirmation (LC-MS)	(Glutathione)	Glutathione
Endotoxin Safety Screen	(≤0.5 EU/mL)	PASS
Fentanyl Presence Analysis	(Not Detected)	Not Detected
Rapid Sterility Screening	(No Growth)	No Growth
Heavy Metal Screening	(Negative)	Negative

BATCH CONFORMITY RESULTS

Vial	Purity (%)	Net Content (mg)
Vial 1	99.761	1510.29
Vial 2	99.844	1495.56
Batch Average	99.802%	1502.92 mg

MASS SPECTRUM

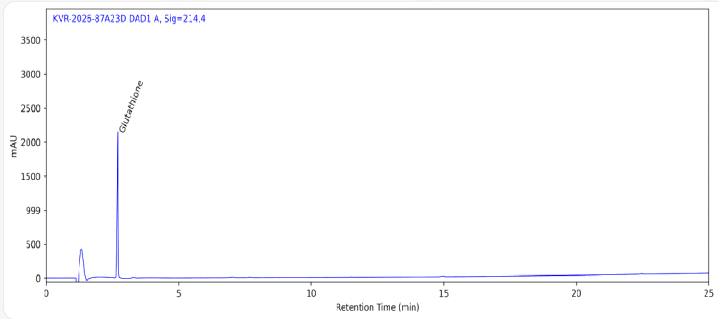
ESI + mode, MS1 centroid Charge states confirmed 1



Each coloured stick is a confirmed charge state of the compound(s) above, drawn at the intensity measured for that ion. Height is relative to the strongest confirmed ion and is not proportional to concentration; content is reported in the Test Results above.

CHROMATOGRAM

Method: RP-HPLC | Column: C18 | Detection: DAD @ 214 nm



Emar Arghandinal
Lab Director



koveralabs.com/verify

Report#: KVR-2026-87A23D
Access Code: YULVYEM



CLIENT & SAMPLE INFORMATION

Client	Origin Labs I	Certified Date	10/25/2026
Product Name	Glutathione	Strength	1500 mg
Lot / Batch	OL-GTT1500-002	Condition	Lyophilized

This Certificate of Analysis certifies that the sample listed herein was tested for bacterial endotoxin using a kinetic chromogenic LAL assay in accordance with USP <85> Bacterial Endotoxins Test.

TEST METHODOLOGY

Test Performed	Quantitative Bacterial Endotoxin Test	Compendial Ref	USP <85>
Assay Type	Kinetic Turbidimetric	Detection λ	660 nm
Detection Range	0.01 - 1.0 EU/mL	Endotoxin Std	E. coli O111:B4
Dilution Vol	2.0 mL	Matrix	LAL Reagent Water

QUANTITATIVE RESULTS

Parameter	Result
Endotoxin Level	< 0.07 EU/mL
Acceptance Limit	≤ 0.5 EU/mL
Sample CV (%)	2.3%
Spike CV (%)	3.7%
Spike Recovery (%)	107%
Final Determination	PASS

CONTROLS

Control	Expected	Observed	Status
Positive Control	Detectable	As expected	Pass
Negative Control	No signal	As expected	Pass

INTERPRETATION

Endotoxin content was quantitatively determined using a kinetic chromogenic LAL assay in accordance with USP <85>. Result reported as below quantitation threshold. The measured endotoxin level meets the specified acceptance criteria. The sample passes the endotoxin limit test.

AUTHORIZATION

REVIEWED BY
Lemar Arghandiwal
Lab Director



CLIENT & SAMPLE INFORMATION

Client	Origin Labs I	Certified Date	October 24, 2026
Product Name	Glutathione	Strength	1500 mg
Lot / Batch	OL-GTT1500-002	Condition	Lyophilized

ICP-MS metals analysis performed using EPA-referenced methods; results evaluated against internal acceptance criteria.

TEST METHODOLOGY

Test Performed	Elemental Impurities Analysis	Instrument	ICP-MS
Sample Prep	HNO ₃ / H ₂ O ₂ matrix	Calibration	Multi-element standard curve
Internal Std	Sc, Ge, In, Bi	Material Type	Raw Material (Research Use)

ELEMENTAL IMPURITIES RESULTS

Element	Result (ppm)	Acceptance Limit (ppm)	Status
Pb Lead	< 0.5	≤ 10	PASS
As Arsenic	< 0.15	≤ 1.5	PASS
Cd Cadmium	< 0.05	≤ 0.5	PASS
Hg Mercury	< 0.3	≤ 3	PASS

METHOD SUITABILITY (SPIKE RECOVERY)

Element	Spike Level	Recovery	Criteria
Pb Lead	5 ppm	98%	70–150%
As Arsenic	0.75 ppm	102%	70–150%
Cd Cadmium	0.25 ppm	95%	70–150%
Hg Mercury	1.5 ppm	91%	70–150%

Spike recovery confirms method suitability for the sample matrix.

INTERPRETATION

Elemental impurities were determined using ICP-MS with EPA-referenced analytical methods. All tested elements (Pb, As, Cd, Hg) are below the stated acceptance limits. Spike recovery values fall within acceptable ranges, confirming method suitability. The sample meets the stated acceptance criteria for elemental impurities.

QUALITY CONTROL

Method Blank: Pass CCV: Pass Duplicate RPD: < 20%

AUTHORIZATION

REVIEWED BY
Lemar Arghandiwal
Lab Director



**CLIENT & SAMPLE INFORMATION**

Client	Origin Labs I	Sample Name	Glutathione
Lot Number	OL-GTT1500-002	Sample Matrix	Lyophilized Powder
Date Received	10/23/2026	Certified Date	10/25/2026

TEST METHODOLOGY**RAPID STERILITY SCREENING METHOD**

Sample is reconstituted and incubated in growth media under controlled conditions. Cultures are monitored for microbial growth over the incubation period. This rapid screening method provides preliminary sterility assessment and is suitable for quality control purposes. For regulatory compliance, full compendial sterility testing may be required.

TEST RESULTS

TEST PARAMETER	SPECIFICATION	RESULT	STATUS
Bacteria (Aerobic/Anaerobic)	No Growth	No Growth	PASS
Fungi / Yeast	Not Detected	Not Detected	PASS
TEST METHOD Rapid Sterility	INCUBATION PERIOD 2 days	TEMPERATURE 30-35C	

FINAL DETERMINATION**STERILITY SCREEN RESULT****SAMPLE PASSES STERILITY SCREEN**

No microbial growth detected during incubation period

