



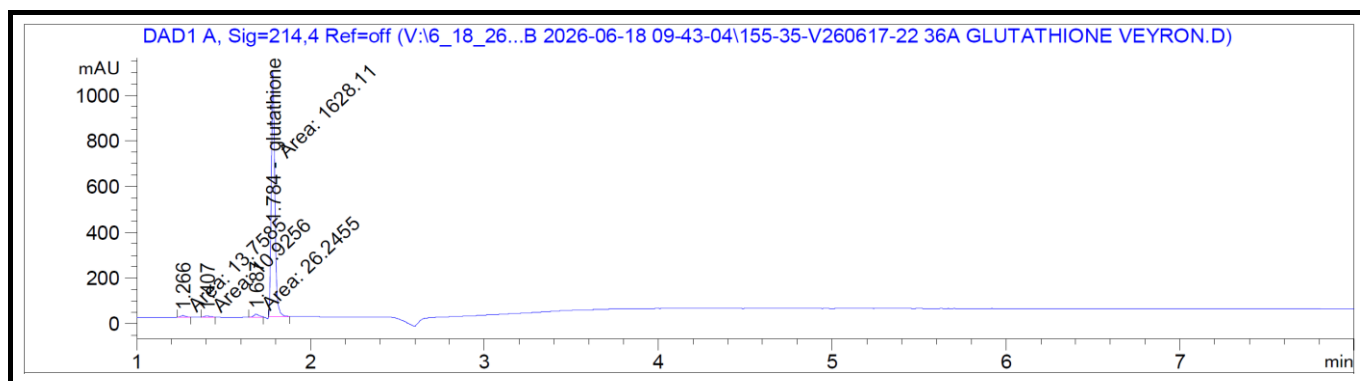
Vanguard Laboratory
2635 Parkmont Ln
Olympia, Wa 98502
360-967-7010

Certificate of Analysis

Glutathione 1500 mg

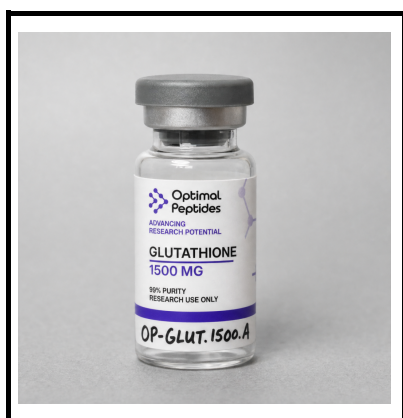
Report To:
Optimal

Compound: Glutathione
Quantity: 1500 mg
Laboratory ID: V260617-22036
Lot Number: OP-GLUT.1500.A
Date Reported: 7/20/2026



Chromatogram for Vial "A" shown above.

Analysis	Method	Result (per Vial)		
Chromatographic Purity: GSH	HPLC-UV/VIS	97.97%	97.34%	97.52%
Chromatographic Purity: GSSG	HPLC-UV/VIS	2.03%	2.76%	2.48%
Quantity	HPLC-UV/VIS	1412 mg	1457 mg	1469 mg



Report By: Dustin Newman, Laboratory Director on 7/20/2026

Approved By: Tori Johnson, Operations Manager on 7/20/2026



Please consult A2LA Certificate #6377.01.01 for a list of accredited tests. Samples were received in acceptable condition. The result(s) in this report relate only to the portion of the sample(s) tested. All analyses were performed consistent with the Vanguard Laboratory Quality Management System. Vanguard Laboratory and its staff did not observe or participate in the sample selection process, and cannot confirm the authenticity of the sample or its representativeness of the associated lot/batch.



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Analyte	Method	LOQ (ppm)	Result (ppm)
Arsenic (As)	ICP-MS	0.01	ND
Cadmium (Cd)	ICP-MS	0.01	ND
Lead (Pb)	ICP-MS	0.01	ND
Mercury (Hg)	ICP-MS	0.005	ND

Run ID: 260625

Analysis	Method	Result
Endotoxins	LAL	Pass - <5.00 EU/mg*
BioBurden	USP <61>	Pass - No Growth Detected

*Pass/Fail criteria based on the USP/FDA threshold of 5 EU/kg (350 EU total for a 70 kg adult)

Report By: Dustin Newman, Laboratory Director on 7/20/2026

Approved By: Tori Johnson, Operations Manager on 7/20/2026

ND: Non-Detect

LOD: Limit of Quantification



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