



Certificate of Analysis

L-Glutathione (Reduced) · 1 500 mg / vial · Lot LGL112

| | |
|-----------------|--------------------------|
| REPORT TO | IGF1 Shop · igf1shop.com |
| COMPOUND | L-Glutathione (Reduced) |
| CAS NUMBER | 70-18-8 |
| SAMPLE RECEIVED | 2026-04-11 |
| DATE RELEASED | 2026-04-16 |

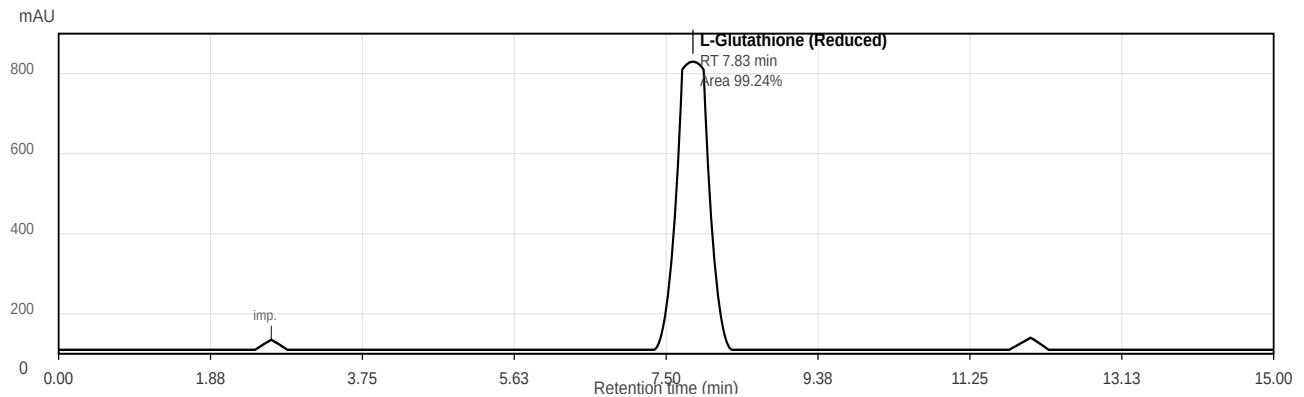
| | |
|---------------------|----------------------------|
| LABORATORY ID | V265400-4 091 |
| LOT NUMBER | LGL112 |
| MOLECULAR WEIGHT | 307.32 Da |
| ANALYSIS CONDUCTED | 2026-04-13 |
| PHYSICAL APPEARANCE | Reconstituted clear liquid |

1. IDENTITY & PURITY

| SPECIFICATION | METHOD | RESULT | STATUS |
|----------------------------|---|-----------------------------|--------|
| Identity confirmation | RP-HPLC + ESI-MS comparison to reference | Conforms | PASS |
| Chromatographic purity | HPLC-UV/VIS, C18 RP, 220 nm | 99.24% ± 0.05% | PASS |
| Quantitative assay | HPLC-UV/VIS | 499.960 mg (target 500 mg) | PASS |
| Mass confirmation (ESI-MS) | Electrospray ionization mass spectrometry | Within ±1 Da of theoretical | PASS |

2. HPLC CHROMATOGRAM

DAD1 A, Sig=220, 4 Ref=off · Column: ZORBAX Eclipse Plus C18, 4.6×150 mm, 3.5 μm · Flow: 1.0 mL/min · Injection: 10 μL · Temp: 30 °C



Reference standard: USP/EP-grade · Run ID V265400-4 091

Integration software: Agilent OpenLAB CDS 2.7

3. MICROBIOLOGICAL & SAFETY ASSAYS

| SPECIFICATION | METHOD | RESULT | STATUS |
|----------------------|-------------------------|--------------------|--------|
| Bacterial endotoxins | LAL kinetic chromogenic | < 0.190 EU/mg | PASS |
| Sterility | USP <71> · BacT/ALERT | No growth detected | PASS |
| Water content | Karl Fischer titration | 0.45% | PASS |
| Acetate content | Ion chromatography | 2.85% | PASS |

4. HEAVY METALS (ICP-MS)

| ANALYTE | METHOD | LOQ (PPM) | RESULT (PPM) | STATUS |
|--------------|--------|-----------|--------------|--------|
| Arsenic (As) | ICP-MS | 0.01 | ND | PASS |
| Cadmium (Cd) | ICP-MS | 0.01 | ND | PASS |
| Lead (Pb) | ICP-MS | 0.01 | ND | PASS |
| Mercury (Hg) | ICP-MS | 0.005 | ND | PASS |

ND: Non-Detect (below LOQ). LOQ: Limit of Quantification.

5. STORAGE & STABILITY

| | |
|--|---|
| Recommended storage | +2 °C to +8 °C, protected from light |
| Stability under recommended conditions | 24 months from release date |
| Retest date | 2027-04-16 |
| Container closure | 10 mL clear borosilicate vial · butyl rubber stopper · aluminum flip-off seal |

REPORT BY

Dustin Newman

Dustin Newman

Laboratory Director

Date: 2026-04-13

APPROVED & RELEASED BY

Tori Johnson

Tori Johnson

Operations Manager

Date: 2026-04-16



ISO/IEC 17025:2017 Accredited Testing Laboratory

Accredited by the American Association for Laboratory Accreditation (A2LA) for analytical chemistry, biopharmaceutical assays, and microbiological testing.

A2LA Cert. #6377.01.01

Scope: pharmaceutical & biological analysis
vanguardlaboratory.com

Reference: A2LA Certificate #6377.01.01. Sample received in good condition. Results apply only to the items tested. Vanguard Laboratory, LLC did not participate in sampling. The compound described is intended for laboratory research use only — not for human or animal consumption, drug, food, agricultural, or cosmetic application.

