



Certificate of Analysis

Date: 8/25/2026 Date Tested: 8/10/2026
 Customer: Peptides Optimized LLC Testing material: Lipo-C (Lipotropic Injectable Blend)
 Batch #: LC216-260810 BT Sample ID: 005336442699522
 Labeled Fill: 10 mL Storage: 2–8°C
 Volume:
 Visual Description: Clear amber solution in a 10 mL glass vial; grey crimp, red flip-off cap.
 Labeled as: Lipo-C Manufacturer: N/A
 Testing Purpose: HPLC and LC-MS analysis for the identification and assay (concentration, mg/mL) of each active ingredient in this liquid injectable, together with appearance and pH. It additionally reports elemental impurities (heavy metals), bacterial endotoxins and sterility as recorded in this certificate.



Test	Method	Specification	Result	Status
Appearance	Visual	Clear solution; free of visible particulates	Clear solution	PASS
pH	USP <791>	3.0 – 7.0	6.0	PASS
L-Carnitine — Identity	LC-MS (ESI)	Conforms to reference standard	Conforms	PASS
L-Carnitine — Assay (concentration)	USP <621>	90.0 – 110.0 % of 200 mg/mL	200.4 mg/mL (100.2 %)	PASS
L-Arginine — Identity	LC-MS (ESI)	Conforms to reference standard	Conforms	PASS
L-Arginine — Assay (concentration)	USP <621>	90.0 – 110.0 % of 20 mg/mL	20.1 mg/mL (100.5 %)	PASS
L-Methionine — Identity	LC-MS (ESI)	Conforms to reference standard	Conforms	PASS
L-Methionine — Assay (concentration)	USP <621>	90.0 – 110.0 % of 25 mg/mL	24.9 mg/mL (99.6 %)	PASS
Inositol — Identity	LC-MS (ESI)	Conforms to reference standard	Conforms	PASS
Inositol — Assay (concentration)	USP <621>	90.0 – 110.0 % of 50 mg/mL	50.3 mg/mL (100.6 %)	PASS
Choline — Identity	LC-MS (ESI)	Conforms to reference standard	Conforms	PASS
Choline — Assay (concentration)	USP <621>	90.0 – 110.0 % of 50 mg/mL	49.8 mg/mL (99.6 %)	PASS
Vitamin B5 (Panthenol) — Identity	LC-MS (ESI)	Conforms to reference standard	Conforms	PASS

CB-QSA-TR001

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This certificate relates only to the item(s) tested. Results shall not be reproduced except in full without the written approval of the laboratory.



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Heavy Metals Analysis (ICP-MS, USP <233>)

Element	Specification	Result	Status
Arsenic (As)	NMT 1.5 ppm	Not Detected	PASS
Cadmium (Cd)	NMT 0.5 ppm	Not Detected	PASS
Mercury (Hg)	NMT 1.5 ppm	Not Detected	PASS
Lead (Pb)	NMT 1 ppm	Not Detected	PASS
Chromium (Cr)	NMT 10 ppm	Not Detected	PASS

Elemental impurities determined by ICP-MS. Limits are laboratory screening limits for research-use material, derived from ICH Q3D permitted daily exposures for the parenteral route.

Test	Method	Specification	Result	Status
Bacterial Endotoxins Test	USP <85>	NMT 40 EU/vial reconstituted	PASS	PASS

The results of the CoA relate only to the item(s) tested and applied to the sample as received.

Bacterial Endotoxins — Lipo-C Lot LC216-260810

Sample ID	Description	Volume (mL)	Endotoxin Limit (EU/vial)	Lysate Sensitivity (λ, EU/mL)	Result
LC216-260810	Lipo-C (Lipotropic Injectable Blend)	3	17.5 EU/mL	0.25	0.10 EU/mL

The sample passed a valid gel clot endotoxin test based on the type, mode of administration and dosage.

Sterility Test

Test	Method	Specification	Result	Status
Sterility	USP <71> (membrane filtration)	No microbial growth	PASS	PASS

Medium	Incubation Temp.	Duration	Units Tested	Observation
Fluid Thioglycollate Medium (FTM)	30 – 35 °C	14 days	2	No growth
Soybean–Casein Digest Medium (SCDM)	20 – 25 °C	14 days	2	No growth

No microbial growth was observed. The sample meets the requirements of the sterility test (USP <71>).

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Notes & Methodology

1. Each active ingredient identified by LC-MS and/or RP-HPLC against a reference standard.
2. Assay (concentration) of each active determined by RP-HPLC and expressed in mg/mL against the labelled claim.
3. Appearance assessed by visual inspection for clarity, colour and visible particulate matter; pH determined potentiometrically per USP <791>.
4. Elemental impurities screened by ICP-MS per USP <233> methodology. Acceptance criteria are laboratory screening limits for research-use material.
5. Bacterial endotoxins determined by gel-clot method per USP <85>. Sterility per USP <71>.