CRAFA
PEPTIDE & COMPOUND ANALYSIS

Independent Peptide & Research-Compound Testing
14 Mill Lane, Cambridge, United Kingdom

CERTIFICATE OF ANALYSIS

Certificate of Analysis (COA)

No. CRF-2026-2073
Issued: 2026-10-15

PRODUCT IDENTIFICATION

PRODUCT
IGF-1 LR3 1 mg

SKU / INTERNAL CODE
CRF-2026-2073

PRESENTATION
Lyophilised powder, 1 mg vial

BATCH NUMBER
LOT-2610-2073

CLIENT
veltispeptides.mx

SAMPLE RECEIVED
2026-10-10

ANALYSIS DATE
2026-10-13

PRODUCTION DATE
2026-10-08

ISSUED
2026-10-15

EXPIRY / RETEST
2028-10-15

MOLECULAR FORMULA
C400H625N111O115S9

MOLECULAR WEIGHT
9111.5

CAS NUMBER
946870-92-4

ANALYTICAL METHOD

PANEL
SILVER - HPLC-UV + LC-MS/MS + ICP-MS (Pb/As/Cd/Hg) + LAL endotoxin

METHOD
RP-HPLC-UV 214 nm · SEC-HPLC · LC-MS/MS ESI Q-TOF · ICP-MS · LAL kinetic chromogenic (USP <85>)

INSTRUMENT
Thermo Q-Exactive · Agilent 7900 ICP-MS · Charles River Endosafe nexgen-PTS

Column: C4 2.1×100mm | Temperature: 50°C | Mobile phase: 0.1% TFA H2O / ACN | Flow: 0.3 mL/min | Retention time: 15.2 min

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1. PURITY & ASSAY - RP-HPLC-UV (214 nm) + SEC

Test	Specification	Result	Status
RP-HPLC Purity	≥98.0%	99.4%	PASS
Quantity	95.0-105.0%	1.01 mg (101.0%)	PASS
Aggregate (SEC)	<2.0%	0.6%	PASS

2. LC-MS/MS STRUCTURAL CONFIRMATION

Test	Reported data	Status
Theoretical [M+H]+	9112.5	Observed: 9112.9	Δ +0.40 Da	PASS
Sequence Coverage (MS/MS)	≥95%	96% (83 aa)	PASS
Key fragments	b18 2064.1 · b34 3877.4 · y21 2418.2 · y39 4471.6	PASS
Modifications	Arg3 substitution (LR3) confirmed; 13-aa N-terminal extension (MFPAMPLSSLFVN) confirmed; three disulfide bridges (C6-C48, C18-C61, C47-C52) all intact	PASS

3. HEAVY METALS - ICP-MS (USP <232>/<233>)

Test	Specification	Result	Status
Pb	≤5.0 µg/g	<0.05 µg/g	PASS
As	≤15.0 µg/g	<0.10 µg/g	PASS
Cd	≤2.0 µg/g	<0.02 µg/g	PASS
Hg	≤3.0 µg/g	<0.01 µg/g	PASS

4. ENDOTOXIN - LAL kinetic chromogenic (USP <85>)

Test	Reported data	Status
Result	<1.0 EU/mg limit | 0.32 EU/mg | PPC recovery 78%	PASS

FINAL BATCH RESULT

PASS - Conforms to specifications

ANALYST NOTES

Long-R3 IGF-1, E. coli expressed. Free thiol <0.3% by Ellman. Binding protein affinity reduced as expected for LR3 analogue.

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