GENESIS BIOLABS
255 S Orange Avenue, Suite 104, Orlando, FL 32801
contact@genesisbiolabs.org | www.genesisbiolabs.org

COA # **6622475**

PASS

Certificate of Analysis

Date:	10/21/2026	Date Tested:	10/5/2026
Customer:	Peptides Optimized LLC	Testing material:	Wolverine
Batch #:	BB20-P05	BT Sample ID:	005000582520048
Labeled Peptide Content/Potency:	10 mg + 10 mg	Storage:	2–8°C
Visual Description:	Small clear vial: white lyophilized powder, white hexagon label, silver crimp, red flip cap.		
Labeled as:	Wolverine	Manufacturer:	N/A
Testing Purpose:	HPLC and LC-MS analysis for the identification, purity and potency of each peptide in this multi-peptide product. It additionally reports elemental impurities (heavy metals), bacterial endotoxins and sterility as recorded in this certificate.		



Test	Method	Specification	Result	Status
General Appearance	Visual	White to off-white powder	white powder	PASS
BPC-157 — HPLC Purity	USP <621>	NLT 98.0 % (area normalisation)	99.61 %	PASS
BPC-157 — HPLC Potency	USP <621>	90.0 – 110.0 % of 10 mg	10.03 mg (100.3 %)	PASS
BPC-157 — Identity (LC-MS)	LC-MS (ESI)	Observed mass within 1 Da of theoretical	Conforms	PASS
TB-500 — HPLC Purity	USP <621>	NLT 98.0 % (area normalisation)	99.61 %	PASS
TB-500 — HPLC Potency	USP <621>	90.0 – 110.0 % of 10 mg	10.03 mg (100.3 %)	PASS
TB-500 — Identity (LC-MS)	LC-MS (ESI)	Observed mass within 1 Da of theoretical	Conforms	PASS
Heavy Metals (Elemental Impurities)	USP <233> (ICP-MS)	Class 1 (Pb, Cd, As, Hg): NMT USP <232>/ICH Q3D limits	Complies (< LOQ)	PASS

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

COA # 6622475 ACCESS CODE **WNK1SX9CSUCR** VERIFY AT www.genesisbiolabs.org/verify

Kenji Sato

Kenji Sato, AS
Laboratory Director
Genesis Biolabs
Signed 10/21/2026

Min-Jun Park

Min-Jun Park, AS
QA Approver
Genesis Biolabs
Signed 10/21/2026

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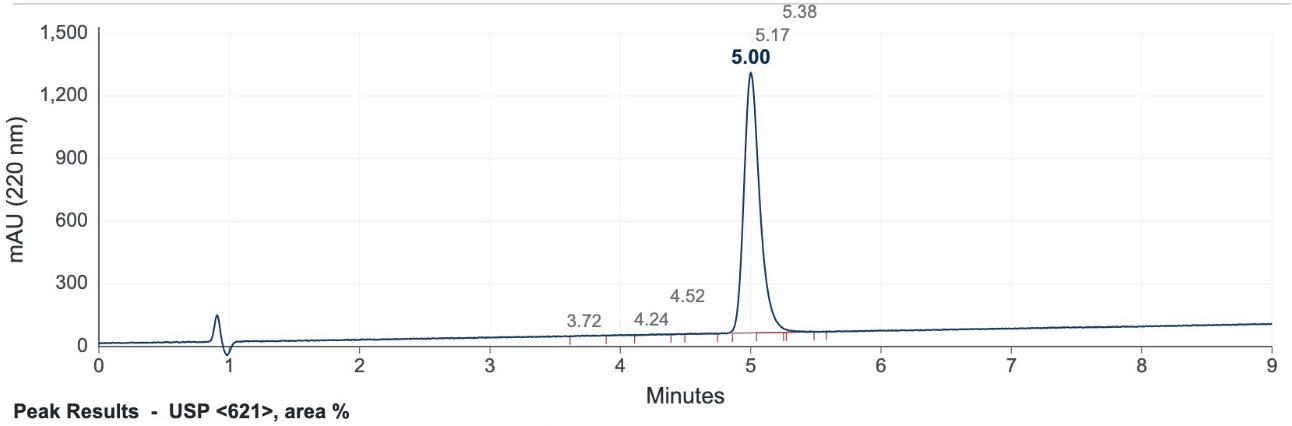
Certificate of Analysis

Product: Wolverine **Batch #:** BB20-P05 **Content:** 10 mg + 10 mg **Tested:** 10/5/2026

HPLC Purity Chromatogram @ 220 nm: Wolverine Lot BB20-P05

Sample Name: Wolverine 10 mg + 10 mg
Sample ID / Lot: BB20-P05
Method: PEP_TFA_220_GRAD.M
Column: Kinetex EVO C18, 4.6 x 100 mm, 2.6 um
Signal: VWD1 A, 220 nm
Mobile Phase: A 0.1% TFA/H2O, B 0.1% TFA/MeCN (gradient)

Injection Volume: 10.0 uL
Acquired: 10/5/2026 12:18
Vial: 30 Injection: 1
Operator: S. Okafor
Flow: 1.2 mL/min Column Temp: 30 C
System: HPLC-02



Peak Results - USP <621>, area %

Pk	RT (min)	Area (mAU*s)	Height (mAU)	Area %	USP Res.	USP Tailing	USP Plates
1	3.72	5	0.9	0.05	-	-	-
2	4.24	6	0.8	0.06	-	-	-
3	4.52	13	1.7	0.12	-	-	-
4	**5.00**	**10,599**	**1,246**	**99.61**	**2.37**	**1.32**	**8,384**
5	5.17	5	0.6	0.05	-	-	-
6	5.38	12	1.7	0.11	-	-	-
Total		**10,640**		**100.00**			

OpenLab CDS | Processing method: USP_PURITY_AREAPCT | Result: main peak 99.6 % (area) | Page 1 of 1

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Product: Wolverine **Batch #:** BB20-P05 **Content:** 10 mg + 10 mg **Tested:** 10/5/2026

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

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Bacterial Endotoxins Test Wolverine Lot BB20-P05

Sample ID	Description	Volume (mL)	Endotoxin Limit (EU/vial)	Lysate Sensitivity (λ, EU/mL)	Result
BB20-P05	Wolverine	3	40 EU/vial	0.25	0.09 EU/vial

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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Certificate of Analysis

Product: Wolverine **Batch #:** BB20-P05 **Content:** 10 mg + 10 mg **Tested:** 10/5/2026

Notes & Methodology

1. Peptide purity determined by RP-HPLC area normalisation at 220 nm. The value represents the percentage of the target peptide relative to all peptide-related peaks. Non-peptide process-related impurities, where detected, are excluded from the calculation.
2. Net peptide content (potency) calculated as assay content corrected for water (Karl Fischer) and counterion content, expressed as a percentage of the labelled claim.
3. Identity confirmed by FTIR against a reference standard (USP <197A>) and by chromatographic retention time comparison.
4. Elemental impurities screened by ICP-MS per USP <233> methodology. Acceptance criteria are laboratory screening limits for research-use material and do not constitute evaluation against a specific pharmacopoeial monograph.
5. Bacterial endotoxins determined by gel-clot method per USP <85>. Sterility per USP <71>.
6. The chromatogram reproduced in this certificate is representative of the batch tested.

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