



CERTIFICATE NO.
PL-26-00036

VERIFICATION KEY
722T4EGC

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CERTIFICATE OF ANALYSIS · LOT RELEASE · ISSUED FOR VIRSTELLIS

GHK-Cu 100 mg

TESTED IN-HOUSE BY PRYMALAB

Lot PL-2609-036 · Lyophilized powder · Label claim 100 mg/vial · Distributed as GHK-Cu

In-house analytical result,
not an independent third-party test

LOT / BATCH NUMBER PL-2609-036	DATE MADE 2026-09-16	DATE OF ANALYSIS 2026-09-18	DATE ISSUED 2026-10-03
RETEST / EXPIRY 2028-09-16	UNITS IN LOT / SAMPLED 250 / 2	STORAGE -20 °C, desiccated, dark	CERTIFICATE TYPE Lot COA, 2 pages

COMPOUND GHK-Cu Copper tripeptide-1; Gly-His-Lys · Cu(II)	CAS NUMBER 89030-95-5	MOLECULAR FORMULA C₁₄H₂₂CuN₆O₄	THEORETICAL MASS (AVG.) 401.9 Da
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SEQUENCE
H-GHK-OH · Cu(II) (1:1 complex; copper bound by the Gly α-amine, the Gly-His amide nitrogen and the His imidazole)

PURITY · RP-HPLC, AREA %

99.62%

Specification 99.0 % • main peak at 2.20 min

IDENTITY · OBSERVED MASS

402.1 Da

Theoretical 401.9 Da • +0.2 Da (498 ppm)

OVERALL CONCLUSION

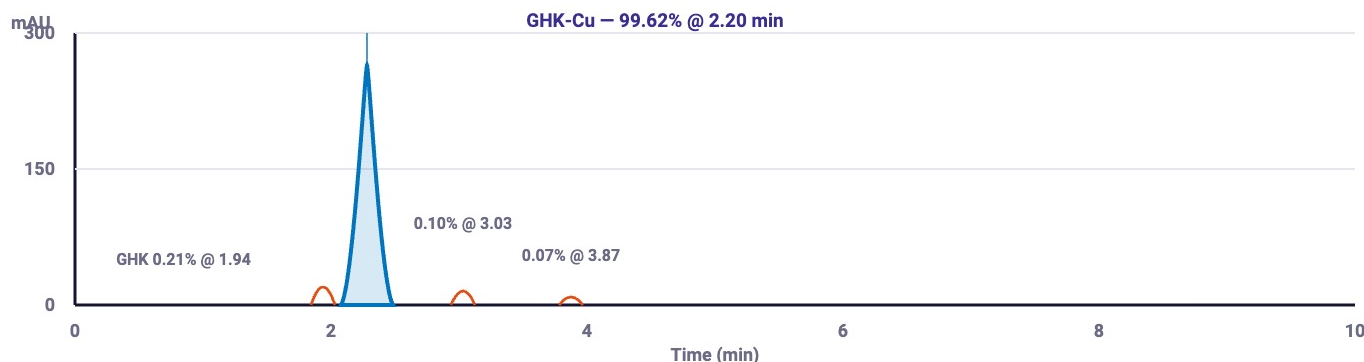
PASS

Meets every specification for the tests performed

TEST	METHOD	SPECIFICATION	RESULT	CONCLUSION
Appearance	Visual inspection	Blue to blue-violet lyophilized powder	Blue lyophilized powder	PASS
Identity (mass)	LC-MS, ESI positive	Theoretical ± 1.0 Da	402.1 Da	PASS
Purity	RP-HPLC, UV 214 nm, area%	99.0%	99.62%	PASS
Largest impurity	RP-HPLC, area%	1.0%	0.21% at 1.94 min (free-GHK dissociation)	PASS
Water content	Karl Fischer	5.0%	2.0%	PASS
Bacterial endotoxin	LAL, kinetic	≤ 5.0 EU/mg	0.04 EU/mg	PASS
Sterility / bioburden	USP <71>, membrane filtration	No growth after 14 days	No growth; conforms	PASS

1 HPLC CHROMATOGRAM

Data file: GHK_PL-2609-036_20260918_01 · Column C18, 150 × 4.6 mm · UV 214 nm



Baseline uncropped; main peak, free-GHK dissociation peak, and impurities labeled with retention times. Peak table on page 2.

**2 HPLC METHOD · GHK_PL-2609-036_20260918_01**

INSTRUMENT

Waters Alliance e2695, SN E2695B742

DETECTION WAVELENGTH

214 nm

MOBILE PHASE A

0.1% TFA in water

COLUMN TEMPERATURE

30 °C

SAMPLE DILUENT

Water, 0.1% TFA

REFERENCE STANDARD

In-house GHK-Cu reference, lot PL-RS-GHK-01, RT 2.18 min (GHK reference, RT 1.92 min)

DATA SYSTEM

Empower 3, Build 3471

COLUMN

C18, 150 × 4.6 mm, 3.5 µm

MOBILE PHASE B

0.1% TFA in MeCN

INJECTION VOLUME

20 µL

SAMPLE CONCENTRATION

0.5 mg/mL

DETECTOR

Waters 2998 PDA

COLUMN PART / SERIAL

18600003326 / USHX18211

FLOW RATE

1.0 mL/min

RUN TIME

10 min

BLANK INJECTED

Yes

3 GRADIENT PROGRAM

TIME (MIN)	% A	% B
0.0	95	5
3.0	95	5
7.0	55	45
8.0	20	80
9.0	20	80
10.0	95	5

4 PEAK TABLE

PEAK	RT (MIN)	AREA	AREA %
1 (free GHK)	1.94	9,030	0.21
2 (GHK-Cu)	2.20	4,283,660	99.62
3	3.03	4,300	0.10
4	3.87	3,010	0.07
Total		4,300,000	100.00

Threshold 0.05% area · Blank subtracted: Y · Purity = main peak area ÷ total integrated area × 100, to two decimals; main peak shaded.

5 IDENTITY BY MASS SPECTROMETRY

INSTRUMENT

Waters Acquity SQD

DECONVOLUTED MASS

402.1 Da

DATA FILE

GHK_PL-2609-036_MS_20260918_01

IONIZATION / MODE

ESI, positive

THEORETICAL MASS

402.9 Da

ACCEPTANCE

Within ± 1.0 Da

OBSERVED M/Z (CHARGE)

402.8 (1+ [M+H]) · 424.8 (1+ [M+Na])

DIFFERENCE

+0.2 Da (498 ppm)

6 ADDITIONAL TESTS

TEST	PERFORMED BY	DATE	REPORT / FILE
Water content	PrymaLab	2026-09-19	RPT-KF-PL-2609-036
Endotoxin	PrymaLab	2026-09-20	RPT-ET-PL-2609-036
Sterility	PrymaLab	2026-10-02	RPT-ST-PL-2609-036

A test with no row here was not performed on this lot. Outside-laboratory reports, when used, are attached and named below.

7 REVIEW AND APPROVAL**D. Reynolds**

Analyst · performed the testing

Date: 2026-09-18

S. Calloway

Reviewer · checked against raw data

Date: 2026-10-02

M. Phelps

Lab Director · approved for release

Date: 2026-10-03

Raw data retained at: Empower 3 (Build 3471), project PL-2609, archive PL-ARC-2026; 7 years. Outside laboratory reports attached: None

This certificate applies only to the lot named above and describes the units sampled from it; it is not a guarantee for any other lot. Results were obtained by PrymaLab LLC's own laboratory (PrymaLab Analytical) and are not an independent third-party test unless an outside report is attached. This copy is issued for Virstellis, a distributor of the lot; the brand shown does not change the laboratory, the method or the results. Reference values (CAS, formula, theoretical mass, sequence) are literature values for the named compound. Authenticity: scan the QR code or enter certificate number PL-26-00036 and key 722T4EGC at prymalab.net/testing/verify; any copy that does not match the record shown there is not a PrymaLab certificate. PrymaLab LLC products are supplied for laboratory research use only and not for human or veterinary use.