Analytical Testing Laboratory
7271 Engle Rd Unit 201A, Middleburg Heights, OH 44130
www.sonic-laboratories.com
COA inquiries: info@sonic-laboratories.com
Verify at sonic-laboratories.com/coa-lookup **Code: FHJKG9T8**

CERTIFICATE OF ANALYSIS

COA #: **SD20261109_034_GHK50**

SAMPLE INFORMATION

Client	First Standard Peptides	**Accession #**	SD20261109_034
Compound	GHK-Cu	**Date Received**	11/09/2026
Molecular Formula	C14H22CuN6O4	**Date Reported**	11/11/2026
Appearance	Blue lyophilized powder	**Labeled Quantity**	50mg
Sample Form	Lyophilized Vial	**Lot / Batch #**	CU50-26-B001
Storage	Room Temp	**CAS Number**	89030-95-5
Cap Color	Black		



All Chemical Analysis Performed by LC-MS/MS

ANALYTICAL RESULTS

Test / Analysis	Method	Specification	Result	Status
Identity (Mass Confirmation)	LC-MS/MS	Matches reference mass	GHK-Cu	**Pass**
Purity	LC-MS/MS	≥ 95.0%	99.115%	**Pass**
Net Peptide Content	HPLC	Report value	53.46 mg	**Pass**
Observed Molecular Mass	LC-MS	Within ± 1.0 Da	402 [M+H]	**Pass**
Theoretical Molecular Mass	Reference	—	401.91 Da	**Pass**
Related Substances / Impurities	LC-MS/MS	Report value	Not Detected	**Pass**
Residual Solvents	LC-MS/MS	Report value	Not Detected	N/A

John Humes, MS. **John Humes, MS.**
Analyzed by · Laboratory Analyst · 11/11/2026

Chetan Soni, PhD. **Chetan Soni, PhD.**
Approved by · Laboratory Director · 11/11/2026

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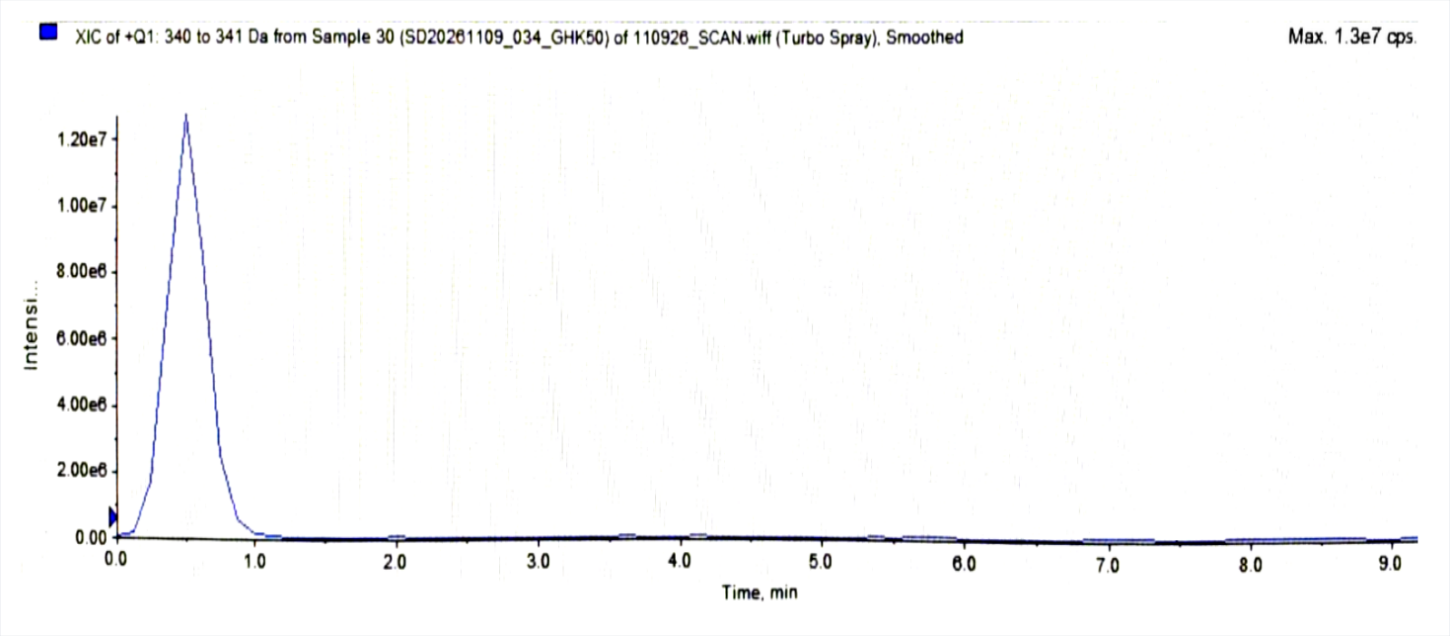
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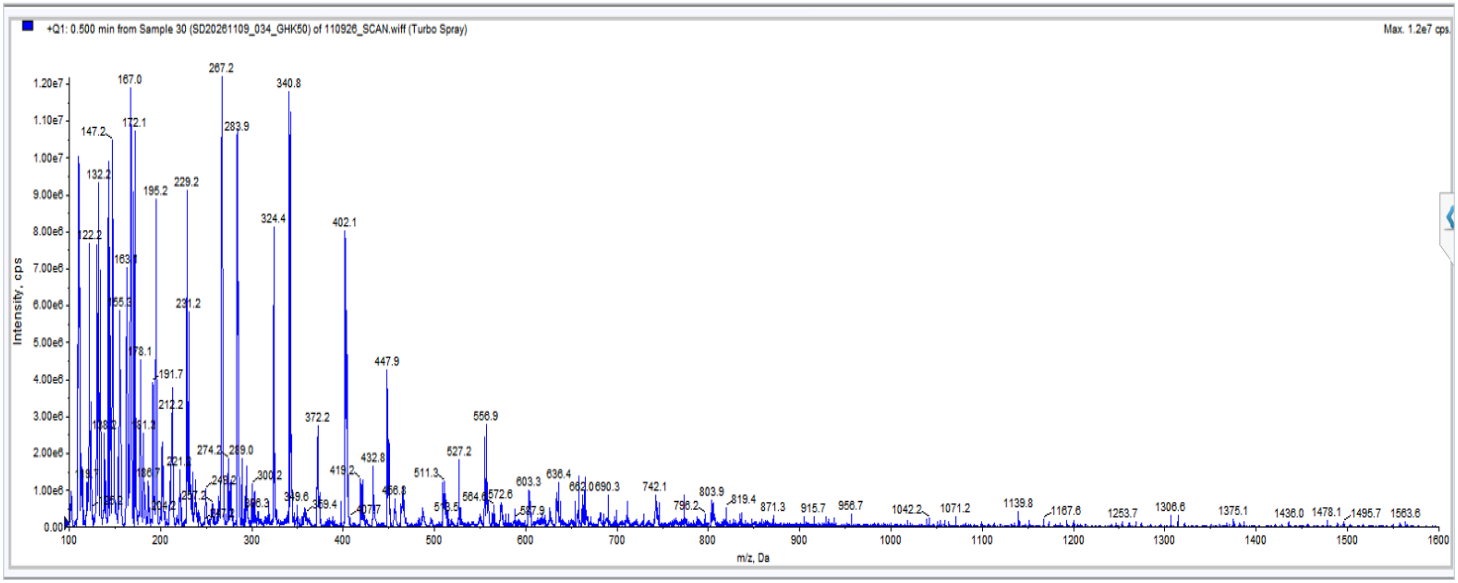
ANALYTICAL DATA

COA #: **SD20261109_034_GHK50**

CHROMATOGRAM



MASS SPECTRUM (LC-MS)



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ANALYTICAL INTERPRETATION

Chromatogram

Retention Time Match for GHK-Cu.

Mass Spectrum (LC-MS)

Sample ID: SD20261109_034_GHK50
Label Claim: GHK-Cu

Observed Ions
m/z 402.1, assigned as GHK-Cu molecular ion
m/z 340.8, peptide-related fragment species
m/z 324.4, fragment ion
m/z 283.9, fragment ion
m/z 267.2, fragment ion
m/z 229.2, fragment ion
m/z 447.9, minor adduct species
Expected Mass

GHK-Cu

Molecular Formula: CHCuNO
Neutral Mass ≈ 401 Da
[M+H]+ ≈ 402.1
Deconvoluted Mass Calculation

m/z 402.1 ([M+H]+)

402.1−1=401.1 Da402.1 - 1 = 401.1 \text{ Da}402.1−1=401.1 Da
Interpretation

The spectrum contains the characteristic GHK-Cu molecular ion:

m/z 402.1, assigned as GHK-Cu, deconvoluting to approximately 401.1 Da

Additional observed ions include:

m/z 340.8, peptide-related fragment species
m/z 324.4, fragment ion
m/z 283.9, fragment ion
m/z 267.2, fragment ion
m/z 229.2, fragment ion
m/z 447.9, minor adduct species

The spectrum exhibits:

Strong molecular ion at the expected mass

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Characteristic fragment ion profile associated with GHK-Cu
No peptide-like multiply charged envelope
No evidence of an alternate dominant compound
Expected mass spectral characteristics for the copper-peptide complex
Conclusion

The observed molecular ion at m/z 402.1 is consistent with the expected protonated molecular ion of GHK-Cu. The accompanying fragment ions are consistent with the expected fragmentation profile of the copper-complexed tripeptide.

Result: PASS – Identity Consistent with GHK-Cu.

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