Analytical Testing Laboratory
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Verify at sonic-laboratories.com/coa-lookup **Code: GQB8TJ63**

CERTIFICATE OF ANALYSIS

COA #: **SD20261109_030_SS31-10**

SAMPLE INFORMATION

Client	First Standard Peptides	**Accession #**	SD20261109_030
Compound	SS-31 (Elamipretide)	**Date Received**	11/09/2026
Molecular Formula	C32H49N9O5	**Date Reported**	11/10/2026
Appearance	White lyophilized powder	**Labeled Quantity**	10mg
Sample Form	Lyophilized Vial	**Lot / Batch #**	SS10-26-B001
Storage	Room Temp	**CAS Number**	736992-21-5
Cap Color	Green		



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	SS-31 (Elamipretide)	**Pass**
Purity	LC-MS/MS	≥ 95.0%	99.22%	**Pass**
Net Peptide Content	HPLC	Report value	10.33 mg	**Pass**
Observed Molecular Mass	LC-MS	Within ± 1.0 Da	640 [M+H]	**Pass**
Theoretical Molecular Mass	Reference	—	639.80 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 · 11/10/2026

Chetan Soni, PhD.

Chetan Soni, PhD.
Approved by · Laboratory Director · 11/10/2026

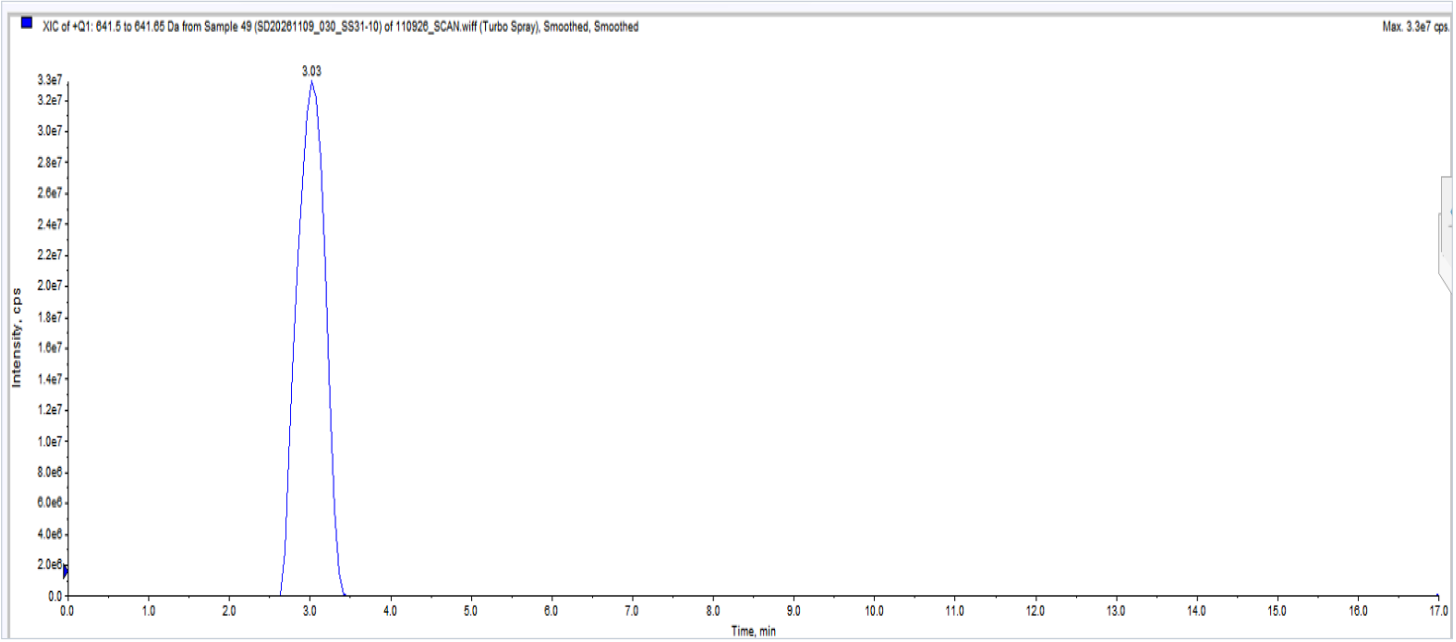
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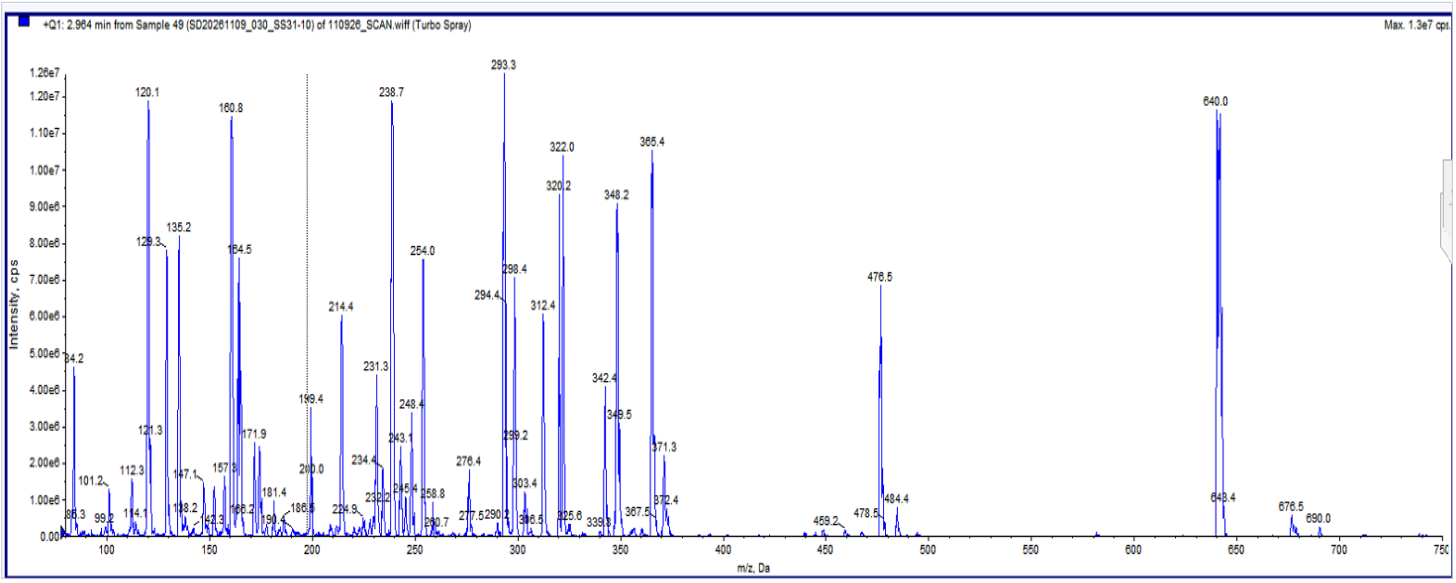
ANALYTICAL DATA

COA #: **SD20261109_030_SS31-10**

CHROMATOGRAM



MASS SPECTRUM (LC-MS)



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ANALYTICAL INTERPRETATION

Chromatogram

Retention Time Match for SS-31

Mass Spectrum (LC-MS)

Sample ID: SD20261109_030_SS31-10
Label Claim: SS-31 (Elamipretide)

Observed Ions
m/z 214.3, assigned as $[M+3H]^3$ SS-31
m/z 322.0, assigned as $[M+2H]^2$ SS-31
m/z 641.6, assigned as [M+H]+ SS-31
m/z 476.4, fragment/adduct species
m/z 365.4, fragment ion
m/z 348.5, fragment ion
m/z 293.3, fragment ion
Expected Mass

SS-31 (Elamipretide)

Neutral mass ≈ 639.8 Da

Expected charge states:

[M+H]+ ≈ 640.8
$[M+2H]^2$ ≈ 320.9
$[M+3H]^3$ ≈ 214.3
Deconvoluted Mass Calculations

m/z 214.3 ($[M+3H]^3$)

(214.3×3)−3=639.9 Da(214.3 \times 3)-3 = 639.9 \text{ Da}(214.3×3)−3=639.9 Da

m/z 322.0 ($[M+2H]^2$)

(322.0×2)−2=642.0 Da(322.0 \times 2)-2 = 642.0 \text{ Da}(322.0×2)−2=642.0 Da

m/z 641.6 ([M+H]+)

641.6−1=640.6 Da641.6-1 = 640.6 \text{ Da}641.6−1=640.6 Da
Interpretation

The spectrum contains the characteristic SS-31 charge-state distribution:

m/z 214.3, assigned as $[M+3H]^3$ SS-31, deconvoluting to 639.9 Da
m/z 322.0, assigned as $[M+2H]^2$ SS-31, deconvoluting to 642.0 Da
m/z 641.6, assigned as [M+H]+ SS-31, deconvoluting to 640.6 Da

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Additional observed ions include:

m/z 476.4, fragment/adduct species
m/z 365.4, fragment ion
m/z 348.5, fragment ion
m/z 293.3, fragment ion

The spectrum exhibits:

Strong singly, doubly, and triply charged precursor ions
Excellent agreement among independently calculated molecular masses
Clean baseline with minimal interference
Expected SS-31 charge-state envelope
No significant ions indicative of an alternate peptide identity
Conclusion

The observed precursor ions at m/z 214.3, 322.0, and 641.6 form the expected SS-31 charge-state distribution and deconvolute to approximately 640 Da, consistent with the theoretical molecular mass of SS-31 (Elamipretide).

Result: PASS – Identity Consistent with SS-31 (Elamipretide).

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