USC Mann
Alfred E. Mann School of Pharmacy
and Pharmaceutical Sciences

Multi-Omics Mass Spectrometry Core
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CERTIFICATE OF ANALYSIS

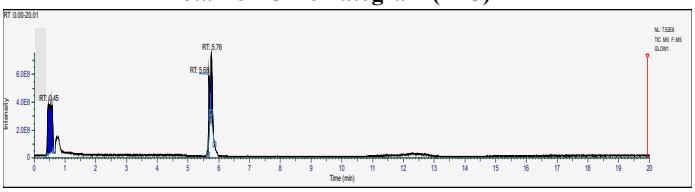
Client / Lot ID	LIVVMORE / GLOW – B10001	**Report Date**	09/11/2026
BPC157 Molecular Formula	$C_{62}H_{98}N_{16}O_{22}$	**BPC157 Mass Error**	0.51 ppm
TB500 Molecular Formula	$C_{212}H_{350}N_{56}O_{78}$	**TB500 Mass Error**	3.59 ppm
GHK Molecular Formula	$C_{14}H_{22}N_6O_4$	**GHK Mass Error**	1.93 ppm
Estimated Purity	99.2%	**Identity**	Confirmed
Analytical Platform	Vanquish UHPLC – Q Exactive	**Acquisition**	Positive HRMS

Conclusion

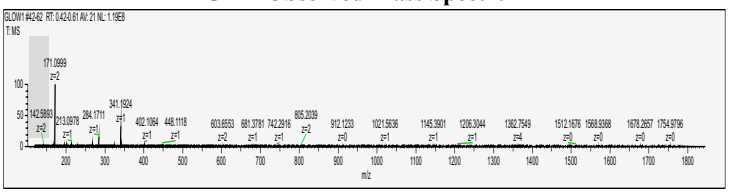
GLOW analytes (BPC157, TB500, and GHK) were detected with accurate mass consistent with the expected molecular formula (0.51 ppm, 3.59 & 1.93 ppm mass error, respectively). LC-MS analysis demonstrated an estimated area purity ~100%, supporting the identity and high analytical purity.

Analytical Evidence

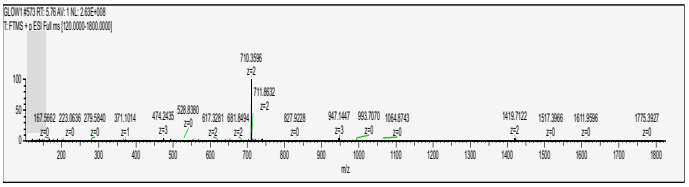
Total Ion Chromatogram (TIC)



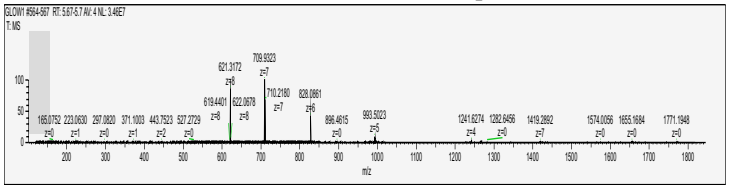
GHK Observed Mass Spectrum



BPC157 Mass Spectrum



TB500 Observed Mass Spectrum



Analytical Method

The analyte was solubilized in water at 20 mg/mL and 5 µL was injected onto an Acclaim PepMap RSLC column (1 × 150 mm, 2 µm) using a Vanquish UHPLC at 150 µL/min. Mobile phases were water/0.1% formic acid (A) and acetonitrile/0.1% formic acid (B). Gradient: 0–1 min, 0% B; 1–10 min to 100% B; 10–10.5 min, 100% B; 10.5–11 min to 0% B; 11–20 min, 0% B. Detection was performed on a Q Exactive quadrupole-Orbitrap in positive ESI mode over m/z 120–1,800 at 140,000 resolving power (AGC 3 × 10^6; maximum injection time 200 ms). Raw data were evaluated in FreeStyle v1.5. Identity was assessed by accurate mass and chromatographic peaks were manually integrated to estimate LC-MS area purity. Identified background/excipient signals were excluded; unassigned components were retained. Identified background/excipient signals were excluded; unassigned components were retained. This certificate reports analytical purity under the described LC-MS conditions and is subject to differences in ionization efficiency and the potential non-detection of poorly ionizing components.

Certification

The analytical results presented in this certificate were generated by the USC Alfred E. Mann Multi-Omics Mass Spectrometry Core using the methods described above.

Whitaker Cohn, Ph.D.
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Signature: Whitaker Cohn

Date: 09/11/26