

CERTIFICATE OF ANALYSIS

Client / Lot ID LIVVMORE / KPV – B10001
Molecular Formula C₁₆H₃₀N₄O₄
Estimated Purity 99.11%
Analytical Platform Vanquish UHPLC – Q Exactive

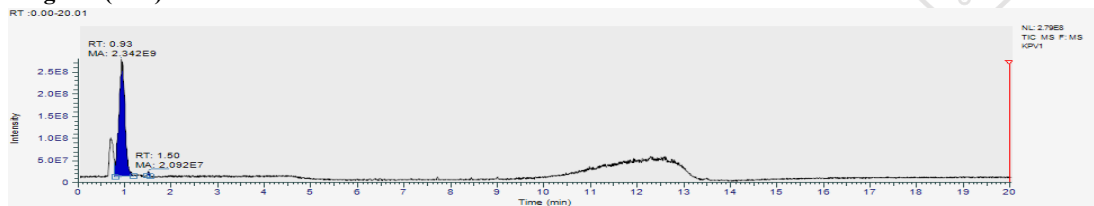
Report Date 09/11/2026
Mass Error 2.27 ppm
Identity Confirmed
Acquisition Positive HRMS

Conclusion

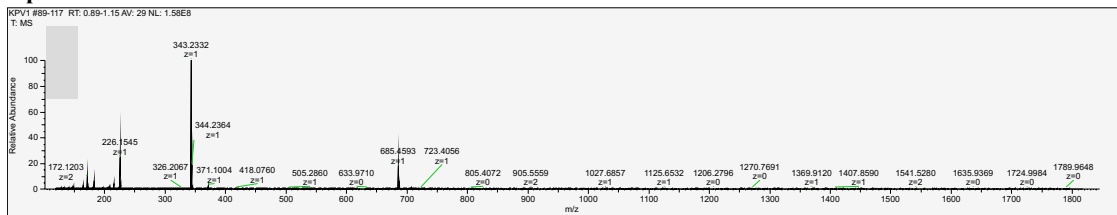
KPV was detected with an accurate mass consistent with the expected molecular formula (2.27 ppm mass error), supporting analyte identity. The estimated LC-MS area purity >99%, supporting high analytical purity of the submitted sample.

Analytical Evidence

Total Ion Chromatogram (TIC)



Observed Mass Spectrum



Analytical Method

The analyte was solubilized in water at 20 mg/mL and 5 μ L was injected onto an Acclaim PepMap RSLC column (1 $\times$ 150 mm, 2 μ m) using a Vanquish UHPLC at 150 μ L/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.

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Signature: Whitaker Cohn

Date: 09/11/26

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