



DOC PV-COA  
REPORT PV-7F995C-VKGD-D3  
ISSUED 06/08/2026

ANALYSED BY AN INDEPENDENT UK LABORATORY PARTNER USING ESTABLISHED HPLC & LC-MS METHODS.

|                         |                |                  |                                      |
|-------------------------|----------------|------------------|--------------------------------------|
| CERTIFICATE ID          | PREPARED FOR   | SAMPLE           | EXPECTED MW                          |
| PV-7F995C-VKKD-D3       | Alph4 Labs ltd | NAD+             | 663.40 Da                            |
| SERVICE TIER            | BATCH / LOT    | ANALYSIS DATE    | INSTRUMENT                           |
| Combined · HPLC + LC-MS | Not provided   | 06/08/2026 15:34 | Shimadzu LCMS-8040 · PDA             |
| METHOD                  | DETECTION      | MS IONIZATION    | ACQUISITION                          |
| HPLC + ESI-MS           | UV 215 nm (±4) | ESI+             | Single injection · UV and MS in line |

SAMPLE AS RECEIVED

### PURITY – HPLC

85.01%

Peak Purity Index (PPI) of the integrated UV signal. Single integrated peak.  
*What this means: 85.01% is the reported purity figure for this sample.*

IDENTITY - LC-MS

- **Confirmed**

Detected intact mass 663.1 Da vs expected 663.40 Da; charge states agree and base peak matches.

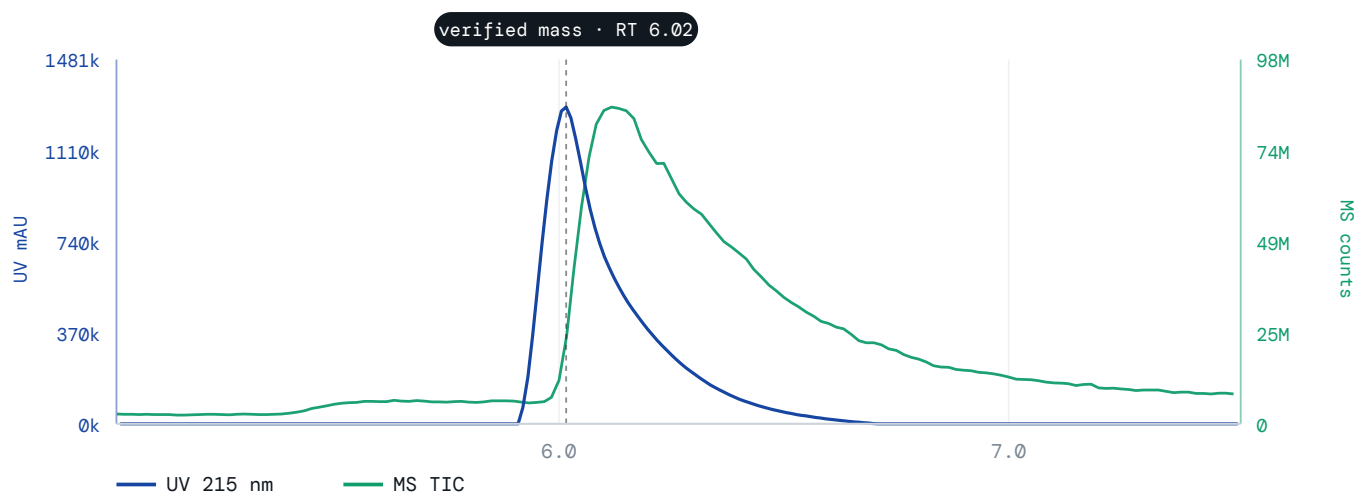
*What this means: the detected molecular weight matches the declared peptide within method tolerance.*

RECORDED ON RECEIPT

| FORM               | COLOUR | CONDITION   | OBSERVED RT | MS / IDENTITY MATCH |
|--------------------|--------|-------------|-------------|---------------------|
| Lyophilized powder | White  | As Expected | 6.02 min    | As Expected         |

PDA 215 NM · ESI TIC

UV PURITY PEAK (BLUE, LEFT AXIS) AND LC-MS TOTAL-ION RESPONSE (GREEN, RIGHT AXIS) ON ONE RETENTION-TIME AXIS - THE VERIFIED MASS CO-ELUTES WITH THE UV PEAK - WINDOW 5.0-7.5 MIN.



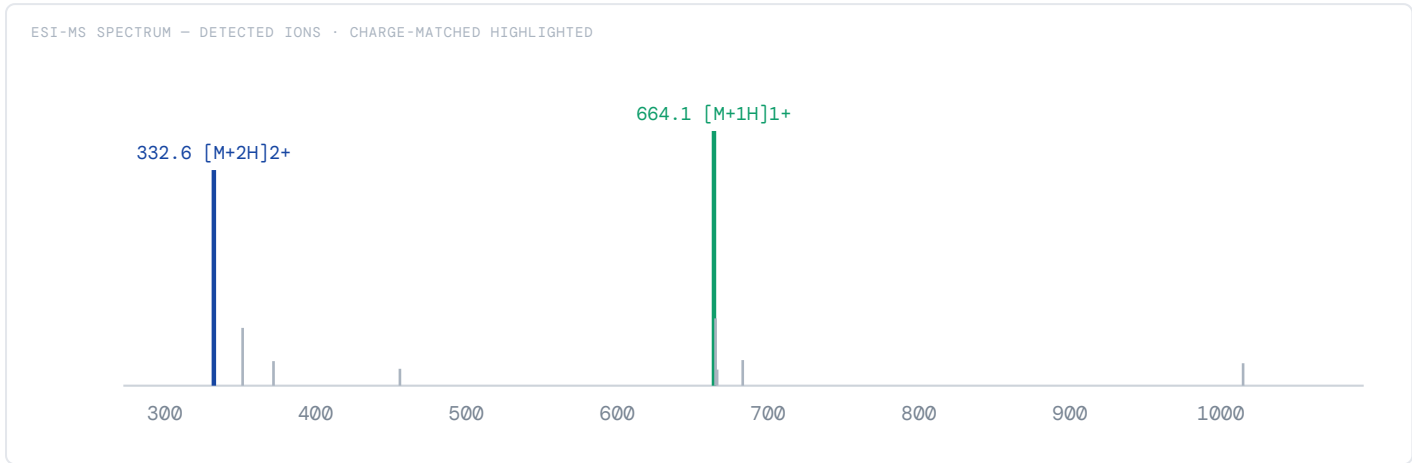
| PEAK | RT / MIN | AREA       | AREA % | PPI % | TAILING | PLATES N |
|------|----------|------------|--------|-------|---------|----------|
| 1    | 6.016    | 16,319,123 | 100.00 | 85.0  | 2.75    | 7,746    |

**PPI %** = Peak Purity Index – the reported purity (spectral homogeneity). **Area %** = this peak's share of total UV area, not a purity claim. Tailing = peak symmetry; Plates N = column efficiency.



02 LC-MS – IDENTITY

ESI · INTACT-MASS DECONVOLUTION



| CHARGE STATE | EXP. M/Z | OBS. M/Z | Δ (DA) | CALC. MW | INTENSITY | MATCH |
|--------------|----------|----------|--------|----------|-----------|-------|
| [M+1H]1+     | 664.12   | 664.10   | -0.02  | 663.1    | 5,998,745 | MATCH |
| [M+2H]2+     | 332.56   | 332.60   | +0.04  | 663.2    | 5,077,585 | MATCH |

Expected m/z is quoted on the monoisotopic mass scale, matching what the instrument reports at each charge state. Δ is the difference between the observed and expected ion. Identity is assessed against an absolute mass window of approximately ±1 Da, appropriate to a unit-resolution quadrupole, together with the requirement that the ion dominates the spectrum and its isotope spacing fits the assigned charge. This method is not specified to parts-per-million mass accuracy.

**Identity: Confirmed.** 2 independent charge states ([M+1H]1+, [M+2H]2+) deconvolute to the same intact mass (≈ 663.1 Da), matching NAD+ within the method's unit-resolution tolerance. Base peak corresponds to the expected dominant charge state.

03 SYSTEM SUITABILITY

| PARAMETER                      | RESULT | LIMIT  | OUTCOME     |
|--------------------------------|--------|--------|-------------|
| Tailing factor (T) – main peak | 2.75   | ≤ 3.5  | PASS        |
| Theoretical plates (N)         | 7,746  | –      | HILIC · N/A |
| Detector / wavelength          | PDA    | 215 nm | PASS        |

HILIC method – this polar compound is separated by hydrophilic-interaction chromatography, where peaks are inherently broad. Reverse-phase plate-count and resolution limits do not apply; identity is established by LC-MS intact mass.

04 VERIFICATION

TAMPER-EVIDENT RECORD

● INDEPENDENTLY VERIFIABLE

peptideverify.co.uk/verify/PV-7F995C-VKKD-D3

INTEGRITY SHA-256 · 1e87f1c8\_d5e4226e

SOURCE DATA · 202600806 HILIC\_PV-7F995C-VKKD-D3\_004.lcd

Scan or visit the URL to confirm this certificate against PeptideVerify's source record.

AUTHORISED BY

C Bray

CHRISTOPHER BRAY · PEPTIDEVERIFY · 06/08/2026

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