

# Certificate of Analysis

|                  |                                                                                       |                   |                                                               |
|------------------|---------------------------------------------------------------------------------------|-------------------|---------------------------------------------------------------|
| Product          | KPV                                                                                   | CAS No.:          | 67727-97-3                                                    |
| Product No.:     | KP10                                                                                  | Molecular Formula | C <sub>16</sub> H <sub>19</sub> N <sub>4</sub> O <sub>4</sub> |
| Sequence         | Lys-Pro-Val-OH<br>Tripeptide (KPV); α-MSH(11-13); C-terminal free acid (acetate salt) |                   |                                                               |
| Molecular Weight | 342.43                                                                                | Quantity          | 15.0g                                                         |
| Batch No.        | KP10-3001A                                                                            | Storage Temp.     | -20±5°C                                                       |
| Mfg. Date        | Mar.9 <sup>th</sup> , 2025                                                            | Retest Date       | Mar.9 <sup>th</sup> , 2027                                    |

| 【ITEMS】                                                              |               | 【SPECIFICATIONS】                                                                                                                       | 【RESULTS】                          |
|----------------------------------------------------------------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|
| Appearance                                                           |               | White or almost white powder                                                                                                           | White loose powder                 |
| Solubility                                                           |               | Soluble in water                                                                                                                       | Conforms                           |
| Solution clarity and color                                           |               | Clear and colorless liquid                                                                                                             | Conforms                           |
| Identification                                                       | HPLC          | The retention time of the principal peak of the test solution corresponds to that of the reference solution, as obtained in the Assay. | Conforms                           |
|                                                                      | Mass spectrum | 342.4±0.5                                                                                                                              | 342.3                              |
| Amino acid content                                                   |               | Lys: 0.9~1.1                                                                                                                           | 1.0                                |
|                                                                      |               | Pro: 0.9~1.1                                                                                                                           | 1.0                                |
|                                                                      |               | Val: 0.9~1.1                                                                                                                           | 1.0                                |
| Related substances (HPLC)                                            |               | Largest single impurity: NMT 1.0%                                                                                                      | 0.13%                              |
|                                                                      |               | Total impurities: NMT 2.0%                                                                                                             | 0.47%                              |
| Purity (HPLC)                                                        |               | NLT 99.0%                                                                                                                              | 99.47%                             |
| pH                                                                   |               | 4.0~7.0                                                                                                                                | 6.7                                |
| Acid group ions                                                      |               | Trifluoroacetate ion (TFA residue): NMT 1.0%                                                                                           | N.D                                |
|                                                                      |               | Acetate ion (acetic acid, counter-ion): NMT 15.0%                                                                                      | 12.5%                              |
| Water content (KF)                                                   |               | NMT 8.0%                                                                                                                               | 2.8%                               |
| Peptide content                                                      |               | NLT 80.0%                                                                                                                              | 91.6%                              |
| Residual solvent                                                     |               | Acetonitrile NMT 410ppm                                                                                                                | 76ppm                              |
|                                                                      |               | Methanol NMT 3000ppm                                                                                                                   | N.D                                |
|                                                                      |               | Methyl tert-butyl ether NMT 5000ppm                                                                                                    | N.D                                |
| Bacterial endotoxins                                                 |               | NMT 10EU/mg                                                                                                                            | 4.2EU/mg                           |
| Microbial Limits                                                     |               | Total aerobic bacteria ≤100cfu/g                                                                                                       | Conforms                           |
|                                                                      |               | Mould & Yeast ≤10cfu/g                                                                                                                 | Conforms                           |
|                                                                      |               | Bile tolerant enterobacteria: absence in 1g                                                                                            | absent                             |
|                                                                      |               | Pseudomonas aeruginosa: absence in 1g                                                                                                  | absent                             |
|                                                                      |               | Staphylococcus aureus: absence in 1g                                                                                                   | absent                             |
| Assay                                                                |               | 95.0%~105.0%<br>(Calculated on anhydrous, acetate-free basis)                                                                          | 98.5%                              |
| Storage                                                              |               | Keep in tight container, protect from light, store at a temperature of -20±5°C.                                                        |                                    |
| Report                                                               |               |                                                                                                                                        | Date: Jun. 20 <sup>th</sup> , 2026 |
| Reviewer                                                             |               |                                                                                                                                        | Date: Jun. 20 <sup>th</sup> , 2026 |
| Conclusion: This batch of product complies with Enterprise Standard. |               |                                                                                                                                        |                                    |

合格

It is only supplied as chemical product.  
It is only for R&D use.