

Certificate of Analysis

Product	GHK-Cu (Copper Tripeptide-1)	CAS No.:	49557-75-7
Product No.:	GHK-Cu	Molecular Formula	C ₁₄ H ₂₂ N ₆ O ₄ Cu
Sequence	Gly-His-Lys (Copper Salt) (Copper ion complexed)		
Batch No.	GHKCU-260601	Quantity	2.0g
Mfg. Date	May 26th, 2026	Retest Date	May 25th, 2028

【 ITEMS 】	【 SPECIFICATIONS 】	【 RESULTS 】
Appearance	Blue or blue-green lyophilized powder	Blue lyophilized powder
Solubility	Freely soluble in water	Conforms
Solution clarity and color	Clear and blue	Conforms
Specific optical rotation $[\alpha]_D^{20}$	-20.0° to -40.0° (anhydrous and sodium ion-free substance)	-23.6°
Identification by 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	Corresponds to structure	Conforms
pH	6.0~8.0	6.9
Water content (KF)	NMT 8.0%	3.2%
Copper content (ICP)	7.0% ~ 9.0%	8.1%
Peptide content (HPLC)	NLT 98.0%	99.32%
Purity (HPLC)	NLT 98.0%	99.28%
Related substances (HPLC)	Any individual impurity: NMT 1.0% Total impurities: NMT 2.0%	0.21% 0.68%
High molecular protein	NMT 0.5%	0.12%
Amino acid content	Gly: 18.0~22.0	20.1
	His: 18.0~22.0	19.3
	Lys: 18.0~22.0	20.0
	Copper-Peptide Ratio	1.0
	AEEA: Should be detected	Conforms



Residual solvent	Methylene chloride NMT 600ppm Acetonitrile NMT 410ppm Methyl tert-butyl ether NMT 5000 ppm DMF NMT 880ppm	N.D 35ppm N.D N.D
Bacterial endotoxins	NMT 10EU/mg	<3EU/mg
Microbial limits	TAMC NMT 100 cfu/g TYMC NMT 100 cfu/g E. Coli: Absent	<20 cfu/g <20 cfu/g Absent
Assay (C ₁₄ H ₂₂ N ₆ O ₄ Cu)	95.0%~105.0%(Calculated with reference to the anhydrous and copper ion-free substance.)	99.1%
Storage	Keep in tight container, protect from light, store at a temperature of -20±5°C.	
Report	Li peng	Date 2026. 06. 03
Reviewer	Fang Hui Liao	Date 2026. 06. 03

Conclusion: This batch of product complies with Enterprise Standards.

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

Testing Organization:
Shanghai High Purity Peptide Biotechnology Co., Ltd.
上海高纯肽生物科技有限公司