



**PrymaLab**

PRYMALAB ANALYTICAL · IN-HOUSE LABORATORY

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CERTIFICATE NO.  
**PL-26-00041**

VERIFICATION KEY  
**YCC7W5XC**

Scan or enter both at  
prymalab.net/testing/verify

CERTIFICATE OF ANALYSIS · LOT RELEASE

# GKP Blend 70 mg

Lot PL-2609-041 · Lyophilized co-blend powder · Label claim 70 mg/vial

TESTED IN-HOUSE BY PRYMALAB

In-house analytical result,  
not an independent third-party test

|                                                                                                                                                                                                                                             |                                                            |                                                                                             |                                                                               |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|---------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|
| LOT / BATCH NUMBER<br><b>PL-2609-041</b>                                                                                                                                                                                                    | DATE MADE<br><b>2026-09-17</b>                             | DATE OF ANALYSIS<br><b>2026-09-19</b>                                                       | DATE ISSUED<br><b>2026-10-03</b>                                              |
| RETEST / EXPIRY<br><b>2028-09-17</b>                                                                                                                                                                                                        | UNITS IN LOT / SAMPLED<br><b>250 / 2</b>                   | STORAGE<br>-20 °C, desiccated, dark                                                         | CERTIFICATE TYPE<br>Lot COA, 2 pages                                          |
| COMPOUND<br><b>GKP Blend</b><br>GHK-Cu + KPV + BPC-157 co-lyophilized blend                                                                                                                                                                 | CAS NUMBER<br><b>89030-95-5 · 67727-97-3 · 137525-51-0</b> | MOLECULAR FORMULA<br>$C_{14}H_{22}CuN_6O_4 · C_{16}H_{30}N_4O_4 · C_{62}H_{98}N_{16}O_{22}$ | THEORETICAL MASS (AVG.)<br>401.9 · 342.4 · 1419.6 Da (GHK-Cu / KPV / BPC-157) |
| COMPOSITION AND SEQUENCES<br><b>GHK-Cu 50 mg:</b> H-GHK-OH · Cu(II) (1:1 copper complex) · <b>KPV 10 mg:</b> H-KPV-OH (3 residues; free N- and C-termini) · <b>BPC-157 10 mg:</b> H-GEPPPGKPADDAGLV-OH (15 residues; free N- and C-termini) |                                                            |                                                                                             |                                                                               |

PURITY · RP-HPLC, AREA %

**99.71%**

Specification 99.0% • blend purity — sum of the three component peaks

IDENTITY · OBSERVED MASS

**3 / 3**

Components confirmed by LC-MS within ± 1.0 Da:  
402.1 / 342.6 / 1419.8 Da

OVERALL CONCLUSION

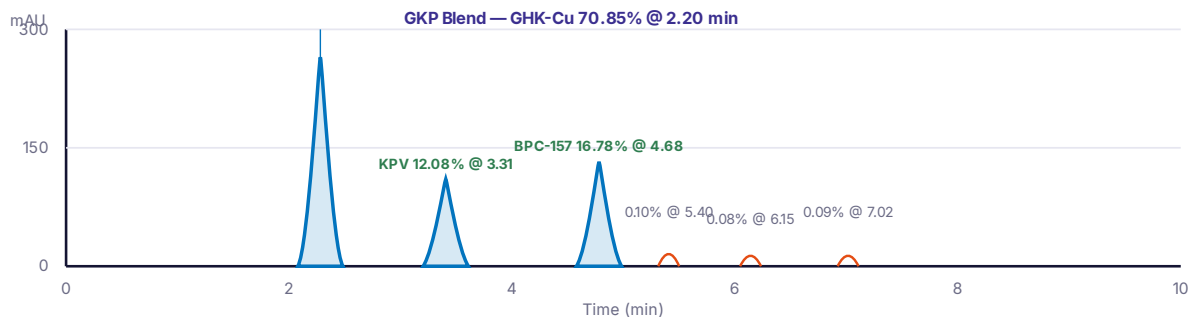
**PASS**

Meets every specification for the tests performed

| TEST                  | METHOD                        | SPECIFICATION                                                | RESULT                   | CONCLUSION |
|-----------------------|-------------------------------|--------------------------------------------------------------|--------------------------|------------|
| Appearance            | Visual inspection             | Blue to blue-violet lyophilized cake (GHK-Cu copper complex) | Blue lyophilized cake    | PASS       |
| Identity (mass)       | LC-MS, ESI positive           | Theoretical ± 1.0 Da, each component                         | 3/3 components confirmed | PASS       |
| Purity                | RP-HPLC, UV 214 nm, area%     | 99.0% (blend)                                                | 99.71%                   | PASS       |
| Largest impurity      | RP-HPLC, area%                | 1.0%                                                         | 0.10% at 5.40 min        | PASS       |
| Water content         | Karl Fischer                  | 5.0%                                                         | 2.0%                     | PASS       |
| Bacterial endotoxin   | LAL, kinetic                  | ≤ 5.0 EU/mg                                                  | 0.05 EU/mg               | PASS       |
| Sterility / bioburden | USP <71>, membrane filtration | No growth after 14 days                                      | No growth; conforms      | PASS       |

## 1 HPLC CHROMATOGRAM

Data file: GKP\_PL-2609-041\_20260919\_01 · Column C18 150 × 4.6 mm · UV 214 nm



Baseline uncropped; three component peaks and impurities labeled with retention times. Peak table on page 2.

**2 HPLC METHOD · GKP\_PL-2609-041\_20260919\_01**

## INSTRUMENT

Waters Alliance e2695, SN E2695B742

## DETECTION WAVELENGTH

214 nm

## MOBILE PHASE A

0.1% TFA in water

## COLUMN TEMPERATURE

30 °C

## SAMPLE DILUENT

Water, 0.1% TFA

## REFERENCE STANDARD

In-house GKP blend reference, lot PL-RS-GKP-01, component RTs 2.18 / 3.29 / 4.66 min

## DATA SYSTEM

Empower 3, Build 3471

## COLUMN

C18, 150 × 4.6 mm, 3.5 µm

## MOBILE PHASE B

0.1% TFA in MeCN

## INJECTION VOLUME

20 µL

## SAMPLE CONCENTRATION

0.5 mg/mL (blend)

## DETECTOR

Waters 2998 PDA

## COLUMN PART / SERIAL

186003326 / USHX18211

## FLOW RATE

1.0 mL/min

## RUN TIME

10 min

## BLANK INJECTED

Yes

**3 GRADIENT PROGRAM**

| TIME (MIN) | % A | % B |
|------------|-----|-----|
| 0.0        | 95  | 5   |
| 3.0        | 95  | 5   |
| 7.0        | 55  | 45  |
| 8.0        | 20  | 80  |
| 9.0        | 20  | 80  |
| 10.0       | 95  | 5   |

**4 PEAK TABLE**

| PEAK        | RT (MIN) | AREA      | AREA % |
|-------------|----------|-----------|--------|
| 1 (GHK-Cu)  | 2.20     | 3,046,550 | 70.85  |
| 2 (KPV)     | 3.31     | 519,440   | 12.08  |
| 3 (BPC-157) | 4.68     | 721,540   | 16.78  |
| 4           | 5.40     | 4,300     | 0.10   |
| 5           | 6.15     | 3,440     | 0.08   |
| 6           | 7.02     | 3,870     | 0.09   |
| Total       |          | 4,300,000 | 100.00 |

Threshold 0.05% area · Blank subtracted: Y · Purity = main peak area ÷ total integrated area × 100, to two decimals; main peak shaded.

**5 IDENTITY BY MASS SPECTROMETRY**

## INSTRUMENT

Waters Acquity SQD

## IONIZATION / MODE

ESI, positive

## OBSERVED M/Z (CHARGE)

402.8 (1+ [M+H], GHK-Cu) · 343.3 (1+ [M+H], KPV) · 1420.3 (1+ [M+H], BPC-157)

## DECONVOLUTED MASS

402.1 / 342.6 / 1419.8 Da (by component)

## THEORETICAL MASS

401.9 / 342.4 / 1419.6 Da (GHK-Cu / KPV / BPC-157)

## DIFFERENCE

≤ +0.2 Da (per component)

## DATA FILE

GKP\_PL-2609-041\_MS\_20260919\_01

## ACCEPTANCE

Within ± 1.0 Da (each component)

**6 ADDITIONAL TESTS**

| TEST          | PERFORMED BY | DATE       | REPORT / FILE      |
|---------------|--------------|------------|--------------------|
| Water content | PrymaLab     | 2026-09-20 | RPT-KF-PL-2609-041 |
| Endotoxin     | PrymaLab     | 2026-09-21 | RPT-ET-PL-2609-041 |
| Sterility     | PrymaLab     | 2026-10-02 | RPT-ST-PL-2609-041 |

A test with no row here was not performed on this lot. Outside-laboratory reports, when used, are attached and named below.

**7 REVIEW AND APPROVAL****D. Reynolds**

Analyst · performed the testing

Date: 2026-09-19

**S. Calloway**

Reviewer · checked against raw data

Date: 2026-10-02

**M. Phelps**

Lab Director · approved for release

Date: 2026-10-03

Raw data retained at: Empower 3 (Build 3471), project PL-2609, archive PL-ARC-2026; 7 years. Outside laboratory reports attached: None

This certificate applies only to the lot named above and describes the units sampled from it; it is not a guarantee for any other lot. Results were obtained by PrymaLab LLC's own laboratory (PrymaLab Analytical) and are not an independent third-party test unless an outside report is attached. Reference values (CAS, formula, theoretical mass, sequence) are literature values for the named compound. Authenticity: scan the QR code or enter certificate number PL-26-00041 and key YCC7W5XC at prymalab.net/testing/verify; any copy that does not match the record shown there is not a PrymaLab certificate. PrymaLab LLC products are supplied for laboratory research use only and not for human or veterinary use.