Alpha Tides

CERTIFICATE OF ANALYSIS · LOT RELEASE

alphatides.net

CERTIFICATE NO.
PL-26-00073

VERIFICATION KEY
SPL7YYKJ

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

CERTIFICATE OF ANALYSIS · LOT RELEASE · ISSUED FOR ALPHA TIDES

PEG-MGF (Mechano Growth Factor) 2 mg

Lot **PL-2609-073** · Lyophilized powder · Label claim **2 mg/vial**

TESTED IN-HOUSE BY PRYMALAB

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

LOT / BATCH NUMBER	DATE MADE	DATE OF ANALYSIS	DATE ISSUED
PL-2609-073	2026-09-18	2026-09-19	2026-10-03
RETEST / EXPIRY	**UNITS IN LOT / SAMPLED**	**STORAGE**	**CERTIFICATE TYPE**
2028-09-18	250 / 2	−20 °C, desiccated, dark	Lot COA, 2 pages

COMPOUND
PEG-MGF
PEGylated mechano growth factor: the IGF-1Ec E-domain 24-mer carrying a polydisperse PEG

CAS NUMBER
Not assigned

MOLECULAR FORMULA
$C_{121}H_{200}N_{42}O_{39}$ (core 24-mer before PEGylation)

THEORETICAL MASS (AVG.)
2867.2 Da core peptide; the conjugate carries a polydisperse PEG (nominal 2–5 kDa)

SEQUENCE

PEG-YQPPSTNKNTKSQRRKGSTFEERK-NH_2 (24-residue human MGF E-domain peptide; C-terminal amide; PEG attached at the N-terminus). Identity is reported on the core-peptide basis.

PURITY · RP-HPLC, AREA %
99.76%
Specification 99.0 % • main peak at 5.48 min

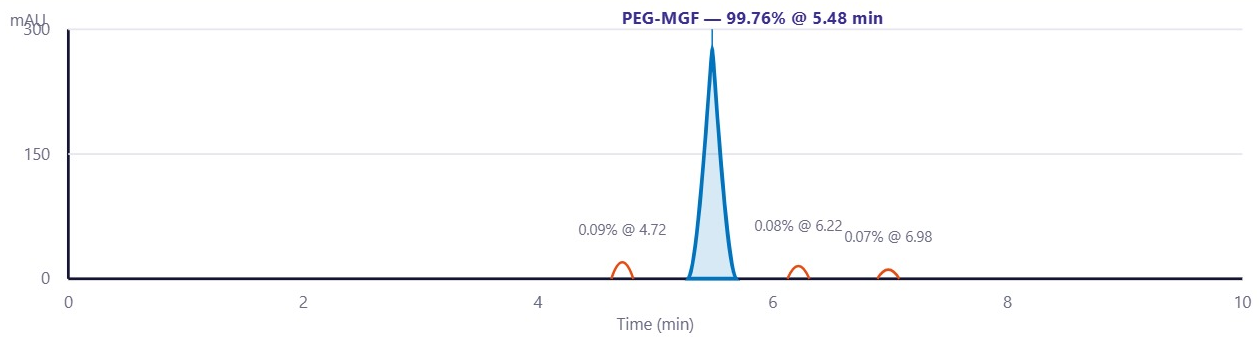
IDENTITY · OBSERVED MASS
2867.4 Da
Theoretical 2867.2 Da • +0.2 Da (70 ppm) • core peptide basis

OVERALL CONCLUSION
PASS
Meets every specification for the tests performed

TEST	METHOD	SPECIFICATION	RESULT	CONCLUSION
Appearance	Visual inspection	White to off-white lyophilized powder	White lyophilized powder	**PASS**
Identity (mass)	LC-MS, ESI positive	Theoretical ± 1.0 Da (core)	2867.4 Da (core 24-mer)	**PASS**
Purity	RP-HPLC, UV 214 nm, area%	99.0 %	99.76 %	**PASS**
Largest impurity	RP-HPLC, area%	1.0 %	0.09 % at 4.72 min (free, non-PEGylated MGF)	**PASS**
Water content	Karl Fischer	5.0 %	2.6 %	**PASS**
Bacterial endotoxin	LAL, kinetic	≤ 5.0 EU/mg	0.09 EU/mg	**PASS**
Sterility / bioburden	USP <71>, membrane filtration	No growth after 14 days	No growth; conforms	**PASS**

1 HPLC CHROMATOGRAM

Data file: PMG_PL-2609-073_20260919_01 · Column C18, 150 × 4.6 mm · UV 214 nm



Baseline uncropped; main peak and impurities labeled with retention times. Peak table on page 2.

Verify: prymalab.net/testing/verify · PL-26-00073 · key SPL7YYKJ

For laboratory research use only. Not for human or veterinary use.

2 HPLC METHOD · PMG_PL-2609-073_20260919_01

INSTRUMENT
Waters Alliance e2695, SN E2695B742

DATA SYSTEM
Empower 3, Build 3471

DETECTOR
Waters 2998 PDA

DETECTION WAVELENGTH
214 nm

COLUMN
C18, 150 × 4.6 mm, 3.5 µm

COLUMN PART / SERIAL
186003326 / USHX18211

MOBILE PHASE A
0.1% TFA in water

MOBILE PHASE B
0.1% TFA in MeCN

FLOW RATE
1.0 mL/min

COLUMN TEMPERATURE
30 °C

INJECTION VOLUME
20 µL

RUN TIME
10 min

SAMPLE DILUENT
Water, 0.1% TFA

SAMPLE CONCENTRATION
0.5 mg/mL

BLANK INJECTED
Yes

REFERENCE STANDARD
In-house PEG-MGF reference, lot PL-RS-PMG-01, RT 5.46 min (core-peptide reference also resolved, lot PL-RS-MGF-01, RT 4.72 min)

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 (free core)	4.72	3,870	0.09
2	**5.48**	**4,289,680**	**99.76**
3 (des-Lys)	6.22	3,440	0.08
4	6.98	3,010	0.07
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)
956.8 (3+ [M+3H]) · 717.9 (4+ [M+4H]) — core 24-mer

DECONVOLUTED MASS
2867.4 Da (core peptide)

THEORETICAL MASS
2867.2 Da (core 24-mer)

DIFFERENCE
+0.2 Da (70 ppm)

DATA FILE
PMG_PL-2609-073_MS_20260919_01

ACCEPTANCE
Within ± 1.0 Da (core)

6 ADDITIONAL TESTS

TEST	PERFORMED BY	DATE	REPORT / FILE
Water content	PrymaLab	2026-09-20	RPT-KF-PL-2609-073
Endotoxin	PrymaLab	2026-09-21	RPT-ET-PL-2609-073
Sterility	PrymaLab	2026-10-02	RPT-ST-PL-2609-073

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. This copy is issued for Alpha Tides, a distributor of the lot; the brand shown does not change the laboratory, the method or the results. Reference values (CAS, formula, theoretical mass, sequence) are literature values for the named compound. Authenticity: scan the QR code or enter certificate number PL-26-00073 and key SPL7YYKJ 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.