TITREON
ANALYTICAL
Peptide & Compound Identity, Purity and Safety Analytics

Titreon Analytical
Analytical Chemistry | Mass Spectrometry | Microbiology
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Certificate of Analysis

FULL QUALITY CONTROL PANEL · COMPOUND ANALYTICAL REPORT

CERTIFICATE NO.
COA-2026-9504
Issued 09/11/2026 · Page 1 of 4

CLIENT	PREPARED FOR
PeptaraLabs	PeptaraLabs.io

Client reference: on file
Distribution: client confidential

SAMPLE & ACCESSION — ACC-2026-9604

ANALYTE / IDENTITY	CAS NUMBER	LOT NUMBER
Kisspeptin-10	374675-21-5	KIS-20260625-21
LABELED CONTENT	**SAMPLE MATRIX**	**APPEARANCE**
10 mg	Lyophilized	Conforms / White Cake
MANUFACTURED	**RETEST / EXPIRY**	**STORAGE**
06/25/2026	06/2028	-20 C, dark
DATE RECEIVED	**DATE ANALYZED**	**DISPOSITION**
08/28/2026	09/10/2026	RELEASED

SAMPLE PHOTOGRAPH AS RECEIVED

Photographic documentation withheld
at the client's request.

Identity and integrity confirmed by the analytical methods herein

CHROMATOGRAPHIC PURITY	IDENTITY	NET CONTENT	BACTERIAL ENDOTOXIN	DISPOSITION
95.48% ✓ PASS	Kisspeptin-10 ✓ PASS	10.27 REPORTED	3.84 ✓ PASS	RELEASED
Spec ≥ 95.0%	HPLC-RTM + LC-MS	mg measured · label 10 mg	EU/mL · limit NMT 5	Full QC Panel complete

1 RELEASE STATEMENT

Authorized Disposition

The submitted Kisspeptin-10 sample was evaluated under the Full Quality Control Panel covering identity, purity, net peptide content, composition, sterility, bacterial endotoxin, elemental impurities, and targeted adulterant screening. Identity was confirmed by HPLC retention-time matching with a corroborating LC-MS base peak at m/z 1303.46 [M+H]+, and chromatographic purity of 95.48 percent exceeded the not less than 95.0 percent release criterion. Sterility returned No Growth, bacterial endotoxin measured 3.84 EU/mL against the not more than 5 EU/mL limit, and arsenic, cadmium, chromium, mercury, and lead were each within their per-element specifications, with fentanyl Not Detected at the screening cutoff. On the basis that all tested attributes meet their respective specifications, the laboratory supports a disposition of RELEASED for the material as received.

IDENTITY	PURITY	NET CONTENT	MOISTURE	STERILITY	ENDOTOXIN	HEAVY METALS
Confirmed	95.48%	10.27 mg	3.8% w/w	No Growth	3.84 EU/mL	Conforms
✓ PASS	✓ PASS	✓ PASS	✓ PASS	✓ PASS	✓ PASS	✓ PASS

2 PURITY, QUANTITATION & IDENTITY

HPLC / HPLC-RTM

ANALYTE	SPECIFICATION	RESULT	UNIT	STATUS
Chromatographic Purity (HPLC)	≥ 95.0%	**95.48**	%	✓ PASS
Net Content	Report only	**10.27**	mg	REPORTED
Identity (HPLC-RTM)	Kisspeptin-10	**Confirmed**	—	✓ PASS
Adulterant / Fentanyl Screen	Immunoassay, 50 ng/mL	**Not Detected**	—	✓ PASS

Interpretation. The measured chromatographic purity of 95.48 percent exceeds the not less than 95.0 percent release criterion. The related-substance profile is dominated by the deamidated and oxidation products characteristic of this decapeptide. Net peptide content of 10.27 mg is the measured peptide mass recovered from the unit and is reported against a nominal 10 mg label claim, confirming the vial delivers at least the labeled mass of active peptide.

Specification ≥ 95.0% **PASS**
HPLC area %

Figure 1. Purity composition of the released dedicated unit by HPLC area normalization. Target compound 95.48%, total related substances 4.52%.

3 REPRESENTATIVE CHROMATOGRAM

Reversed-phase HPLC-UV

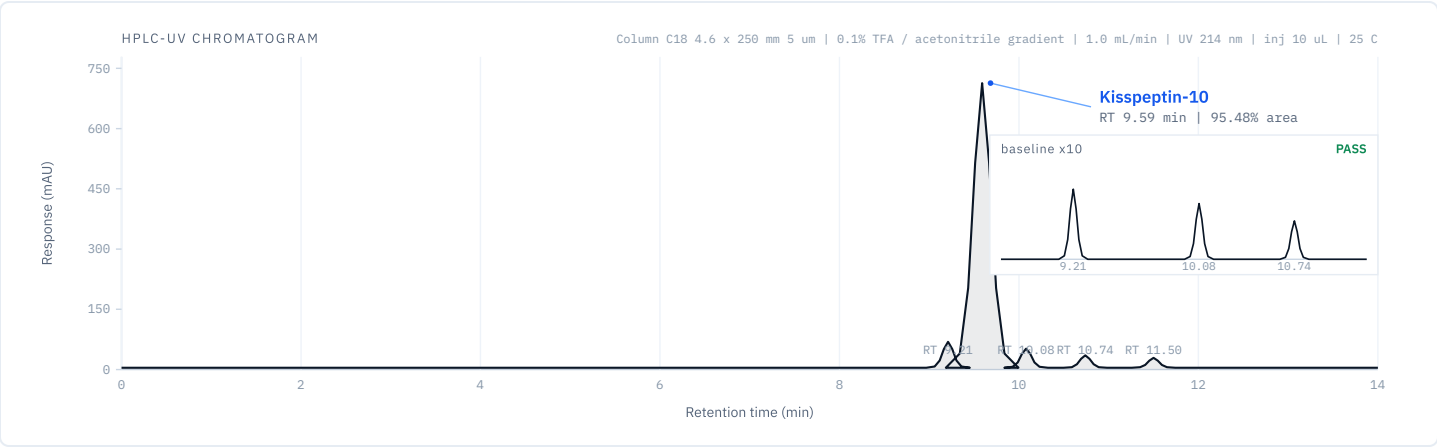

Figure 2. Representative reversed-phase HPLC-UV chromatogram (Conformity unit V1, near the batch mean). Trace related substances are shown magnified 10x in the inset. A sharp, symmetric principal peak with a controlled related-substance burden is consistent with the release criterion.

PEAK	RT (MIN)	AREA (MAU·S)	AREA %	PLATES (N)	TAILING
Kisspeptin-10 (principal)	9.59	4,774,000	**95.48**	8,600	1.05
Deamidated impurity (RRT 0.96)	9.210	107,000	2.14	7,200	1.10
Oxidation product (RRT 1.05)	10.080	69,000	1.38	6,900	1.12
Truncated 1-9 peak (RRT 1.12)	10.740	32,000	0.64	6,600	1.14
Unspecified impurity (RRT 1.20)	11.500	18,000	0.36	6,400	1.11
Total		**5,000,000**	**100.00**		

4 MASS CONFIRMATION

LC-MS, ESI positive

Figure 3. LC-MS mass confirmation (electrospray positive mode). Base peak [M+H]+ at m/z 1303.4600 matches Kisspeptin-10 (sequence YNWNSFGLRF-NH2, MW 1302.45 Da); the isotopic envelope [M+1] (72.0%) and [M+2] (28.5%) confirms identity.

5 CONFORMITY TESTING

3 units · HPLC

SAMPLE	PURITY	NC (MG)	IDENTITY	RESULT
V0 (dedicated)	95.48%	10.28	Confirmed	✓ PASS
V1	95.35%	10.21	Confirmed	✓ PASS
V2	95.60%	10.32	Confirmed	✓ PASS
Mean	**95.48%**	**10.27**	–	–
Std Dev	**0.130%**	**0.06**	–	–

Interpretation. Across three independently tested units the purity standard deviation was 0.13 percent and net content standard deviation 0.06 mg, a low dispersion consistent with a homogeneous, well-controlled batch.

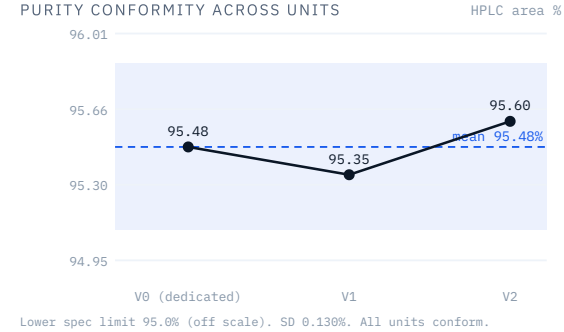

Figure 4. Purity conformity across tested units with mean and plus or minus 3 SD control band (SD 0.130%).

6 COMPOSITION, MOISTURE & COUNTERION

KF · IC · USP <467>

PARAMETER	METHOD	SPECIFICATION	RESULT	STATUS
Net Content	HPLC / AAA	Report only	**10.27 mg**	REPORTED
Water (Karl Fischer)	USP <921>	NMT 8.0% w/w	**3.8%**	✓ PASS
Counterion (trifluoroacetate)	Ion chromatography	Report only	**9.2% w/w**	REPORTED
Residual Solvents	USP <467>	Not Detected	**Not Detected**	✓ PASS
Gross Fill Weight	Gravimetric	Report only	**92.1 mg**	REPORTED

Interpretation. Karl Fischer titration returned 3.8 percent residual water and the trifluoroacetate counterion accounts for 9.2 percent by weight, both typical for a freeze-dried peptide salt. The 92.1 mg gross fill reconciles peptide, counterion, water, and lyophilization excipient fill.

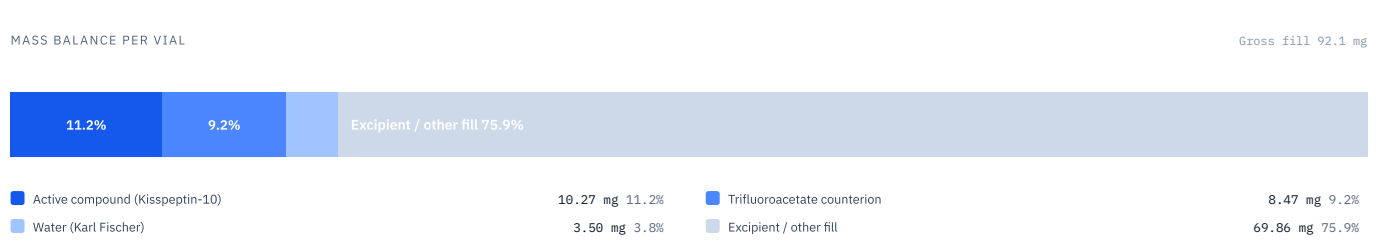

Figure 5. Mass balance of the lyophilized cake. Net peptide is reported against the 10 mg label claim; the balance is trifluoroacetate counterion, residual water, and lyophilization excipient fill.

7 SAFETY & CONTAMINATION CONTROLS

ICP-MS · USP <71> · <85>

TEST	METHOD	SPECIFICATION	RESULT	STATUS
Arsenic (As)	ICP-MS	NMT 1.5 ppm	**0.247 ppm**	✓ PASS
Cadmium (Cd)	ICP-MS	NMT 0.5 ppm	**0.091 ppm**	✓ PASS
Chromium (Cr)	ICP-MS	NMT 10 ppm	**4.128 ppm**	✓ PASS
Mercury (Hg)	ICP-MS	NMT 1.5 ppm	**0.084 ppm**	✓ PASS
Lead (Pb)	ICP-MS	NMT 1 ppm	**0.412 ppm**	✓ PASS
Sterility	USP <71>	No Growth	**No Growth**	✓ PASS
Bioburden	USP <61>	Report / Low	**< 10 CFU/g**	✓ PASS
Bacterial Endotoxin	USP <85>	NMT 5 EU/mL	**3.84 EU/mL**	✓ PASS

Interpretation. By ICP-MS, arsenic, cadmium, chromium, mercury, and lead were each measured below their specification thresholds. Sterility by membrane filtration returned No Growth with bioburden below the reporting limit, and bacterial endotoxin measured 3.84 EU/mL, within the not more than 5 EU/mL release limit.

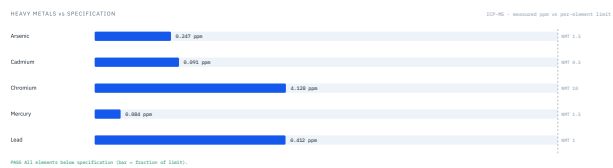

Figure 6. Elemental impurity headroom by ICP-MS. All regulated elements measured below specification.

Figure 7. Bacterial endotoxin safety margin (USP <85>). Result 3.84 EU/mL against the NMT 5 EU/mL pass limit.

8 FOR THE RECIPIENT

Plain-language summary

- ✓ **Purity 95.48 percent.** The main peak is Kisspeptin-10, past the 95 percent release bar; the rest is trace deamidation and oxidation products.
- ✓ **You get at least the labeled amount.** Measured net peptide content is 10.27 mg, at or above the 10 mg on the label.
- ✓ **It is genuinely Kisspeptin-10.** HPLC retention time plus an LC-MS base peak at m/z 1303.46 confirm the identity, so this is not a substitute or a mislabel.
- ✓ **Sterility and endotoxin within specification.** Sterility shows No Growth and bacterial endotoxin is 3.84 EU/mL, within the not more than 5 EU/mL limit.
- ✓ **Screened for contamination.** Arsenic, cadmium, chromium, mercury, and lead were all below limits, and the fentanyl adulterant screen was Not Detected.
- ✓ **Water and salt are normal.** The small amounts of water (3.8 percent) and trifluoroacetate (9.2 percent) are expected for a freeze-dried peptide and are already accounted for in the net peptide figure.

Purity (HPLC)
Percent of the main compound peak relative to all detected peaks.

Net content
Measured mass of the actual compound, separate from water and salt.

NMT
Not more than; an upper acceptance limit.

Not Detected
Below the method limit of quantitation (LOQ).

EU/mL
Endotoxin units per milliliter, a measure of bacterial toxin.

RRT
Relative retention time; an impurity position versus the main peak.

Counterion
The salt partner of the compound.

w/w
By weight, as a percent of total mass.

USP <71> / <85>
Standard chapters for sterility and bacterial endotoxin.

Karl Fischer
Titration method for measuring residual water (USP <921>).

Storage. Store the sealed lyophilized vial at -20 C, protected from light. Reconstituted solution is stable at 2 to 8 C; use within 30 days. **Reconstitution.** Add 2 mL bacteriostatic or sterile water down the vial wall, swirl gently, do not shake. **Handling.** Research use only; not for human or veterinary use.

9 ANALYTICAL METHODS & NOTES

Method principles

HPLC Purity and Net Content
Reversed-phase HPLC with UV detection separates the principal compound from related substances; purity is percent main-peak area and content is quantified against a calibrated reference. Acceptance: not less than the stated release limit.

LC-MS Mass Confirmation
Electrospray positive-mode mass spectrometry resolves the molecular ion and isotope or charge-state signature of the analyte.

Counterion by Ion Chromatography
Ion chromatography determines the counterion content by weight, characterizing the salt form.

Heavy Metals by ICP-MS
Inductively coupled plasma mass spectrometry quantifies elemental impurities against per-element limits.

Bioburden by USP <61>
Total aerobic microbial and yeast or mold counts establish microbial load prior to release.

Identity by HPLC Retention-Time Matching
Sample retention time is compared to a qualified reference standard under identical conditions; identity is confirmed on co-elution within the established window.

Water Content by Karl Fischer
Coulometric Karl Fischer titration per USP <921> quantifies residual moisture in the lyophilized cake. Acceptance: not more than 8.0 percent w/w.

Residual Solvents
Headspace GC per USP <467> screens process solvents against a not-detected threshold.

Sterility by USP <71>
Membrane filtration sterility test; No Growth is reported when no microbial recovery is observed across the incubation period.

Bacterial Endotoxin by USP <85>
Kinetic bacterial endotoxin test; acceptance is not more than 5 EU/mL per client specification.

DocuSigned by:
10101010 10000001 00100101 00110101
DS FC

Finn C.
Laboratory Director
Date of authorization: 09/11/2026

DocuSigned by:
11010101 00111000 11011001 00100000
DS BC

Brennan C.
Quality Assurance
Reviewed against acceptance criteria: 09/11/2026

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