Gold Standard Analytics

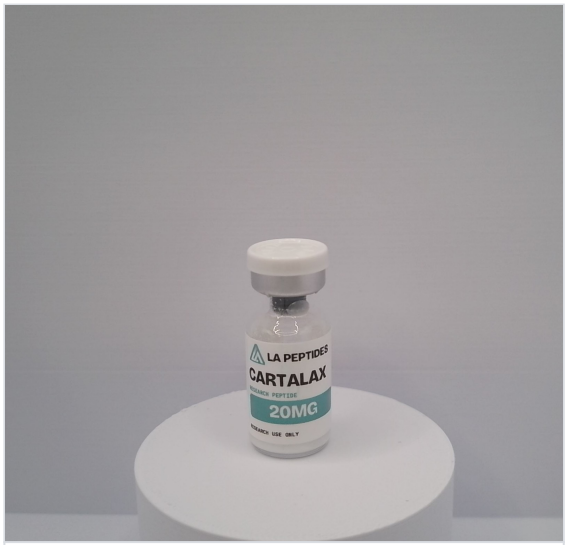
Gold Standard Analytics LLC, Houston, TX

CERTIFICATE OF ANALYSIS

Report GSA-COA-CUST-LA-2218CART-20261109-7 · issued Nov 23, 2026

LA Peptides

PRODUCT	ORDER	SAMPLE
Cartalax (Ala-Glu-Asp)	GSA-2026-000080	LA2218-CART
LABEL	**LOT**	**ISSUED**
Cartalax	2618	Nov 23, 2026



THE SAMPLE AS RECEIVED

IDENTITY ✓

Cartalax

confirmed by mass

PURITY

99.53 %

HPLC-UV, 214 nm, 2 injections

ENDOTOXINS ✓

< 0.050 EU/mL

Pass; spike recovery 112 %

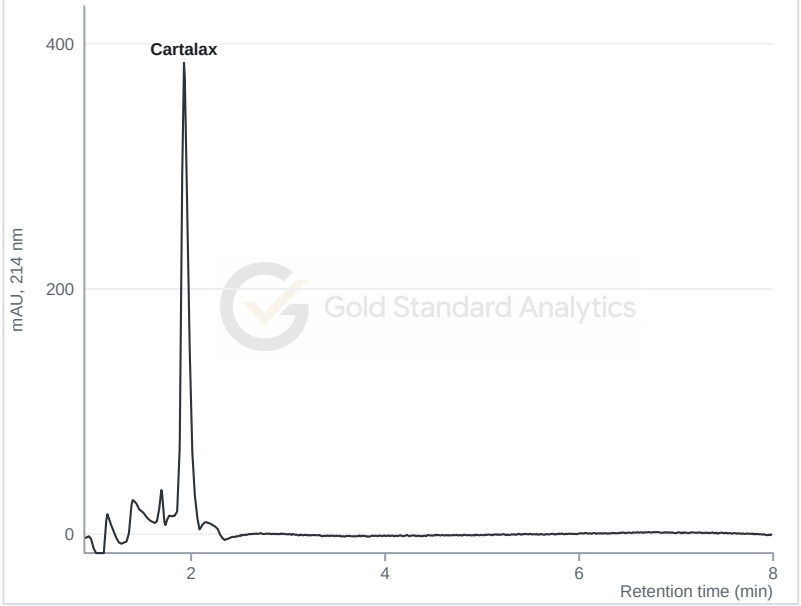
STERILITY ✓

No growth

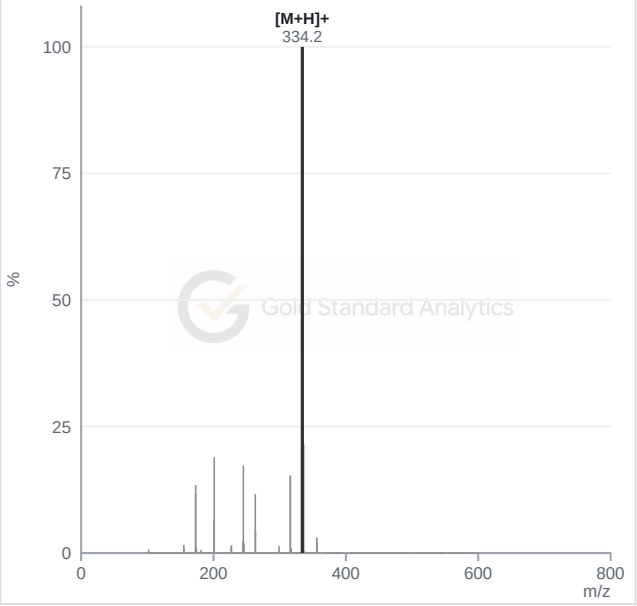
Pass; both canisters, 14 days

✓ **Heavy metals** USP <232>, ICP-MS: Pb, Cd, Hg, As, Co, V, Ni — **Pass**

HPLC CHROMATOGRAM UV, 214 nm



MASS SPECTRUM main peak (1.93 min)



RELEASED BY

Ian Ebert

Chemist & Lab Lead · Nov 24, 2026

Scan to verify

goldstandardanalytics.com/coa/

Results are not covered by ISO/IEC 17025 accreditation. Results relate only to the sample as received and tested.

The sample

Lot 2618 · LA Peptides

Customer	**LA Peptides**	Lot	**2618**
Order	**GSA-2026-000080**	Prepared	**Vial contents dissolved in 2 mL water with 0.1 % formic acid, then diluted 1 in 10, 6 Nov 2026**
Sample	**LA2218-CART**	Tested	**09 Nov 2026**
Label	**Cartalax**	Tests	**Identity, Purity, Impurity breakdown, Bacterial endotoxins, Sterility, Elemental impurities**

Graphs

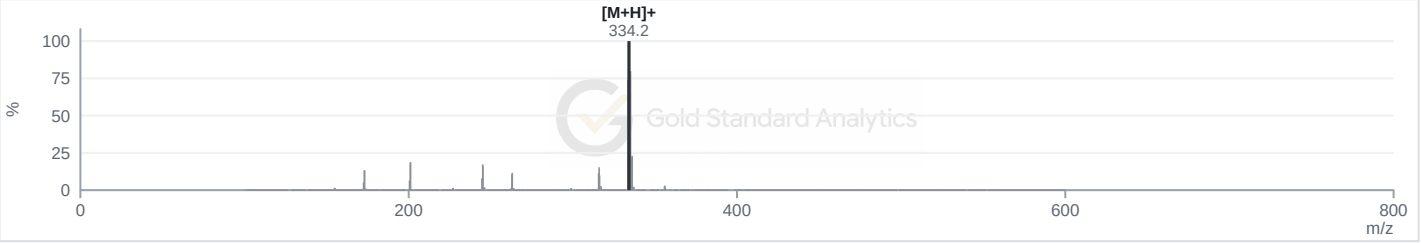
HPLC CHROMATOGRAM

HPLC chromatogram (UV, 214 nm) · mAU, 214 nm against Retention time (min)



MASS SPECTRUM

Mass spectrum of the main peak (1.93 min) · Counts against m/z



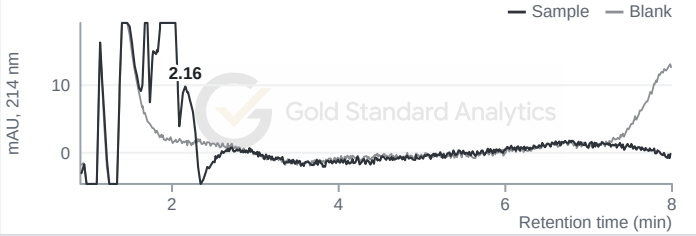
Results

Identity	**Consistent with Cartalax (Ala-Glu-Asp).** The main peak at 1.93 min carries its ion at m/z 334.2 ([M+H]+); molecular mass 333.1 (expected 333.1).
Purity	**99.53 %** by HPLC with UV detection at 214 nm (share of the total peak area); mean of two injections of the same solution (96.43 % and 96.64 %). One impurity was found, listed below. The vial also contains a sugar alcohol such as mannitol (a common vial filler), seen by mass near the start of the run; it is not a peptide and is not counted.
Bacterial endotoxins	**< 0.050 EU/mL; spike recovery 112%** . Pass.
Sterility	**No growth in either canister after 14 days** . Pass.
Elemental impurities (USP <232>)	**Pb < 0.5 µg/g; Cd < 0.2 µg/g; Hg < 0.3 µg/g; As < 1.5 µg/g; Co < 0.5 µg/g; V < 1 µg/g; Ni < 2 µg/g (Agilent ICP-MS)** . Pass.

Zoomed views

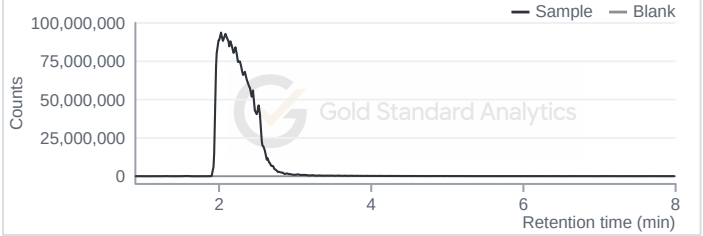
HPLC, SMALL PEAKS

Zoomed in on the small peaks (5 % of the main peak) · mAU, 214 nm against Retention time (min)



ION TRACE

Ion trace, m/z 334.1 (Cartalax [M+H]+): sample vs blank · Counts against Retention time (min)



Impurities

Every peak other than Cartalax that was counted (mean of two injections):

PEAK (MIN)	AMOUNT	WHAT IT IS
2.16	0.47 %	A separate form of Cartalax with the same mass (an isomer, for example with the aspartic acid linked differently); its exact structure is unknown.

> Amounts are each peak's share of the total UV peak area at 214 nm.

How it was tested

Liquid chromatography with UV and mass-spectrometry detection: Agilent 1290 Infinity II LC with a 6490 triple-quadrupole mass spectrometer. Column Polaris C18-A, 2.0 x 150 mm, 35 °C; water and acetonitrile, each with 0.1 % formic acid. Purity: UV peak area at 214 nm after subtracting a blank run of the same sequence. Identity: molecular mass from the mass spectrum. Bacterial endotoxins: endotoxin reader, 0.050 EU/mL limit; result reported as printed by the reader, with spike recovery. Sterility: membrane filtration (canisters), 14-day incubation. Elemental impurities (USP <232>): Agilent ICP-MS; Pb, Cd, Hg, As, Co, V, Ni.

Notes

Results apply only to the sample as received and tested. The test solution was injected about 3 days after it was prepared (kept in the cooled autosampler); peptides can change slowly in solution, so a freshly prepared solution may read slightly higher.

Release

This report is signed electronically at release. The signature is printed on page 1, and the release record, added as the last page, gives the date and the verification code.

Gold Standard Analytics

Release record

goldstandardanalytics.com

Report GSA-COA-CUST-CARTALAX-UPL-d6c2c12f3501 · Certificate GSA-2026-626600

Customer and order	LA Peptides · Custom sample (no order)
Sample and report	Cartalax · Certificate of Analysis
Report reference	GSA-COA-CUST-CARTALAX-UPL-d6c2c12f3501
Certificate accession	GSA-2026-626600
Released and signed by	Ian Ebert, Chemist & Lab Lead
Date and time (UTC)	2026-11-24 23:34:41Z
Signature meaning	Approved for release. The signer reviewed this report and approved its release to its customer.
Approval reference	eb2c140c-baf8-4c2d-9e55-9c52b3544116
Electronic signature	Signed electronically in a signed-in GSA staff account.
Original report SHA-256	e0241a94b0841b2efa21731c0adc32af63070b5f6c70b27889d8bd98a4d469ac
Verify this certificate	https://goldstandardanalytics.com/coa/GSA-2026-626600

Scan to view this certificate online

Signature



Ian Ebert, Chemist & Lab Lead

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