Gold Standard Analytics

Gold Standard Analytics LLC, Houston, TX

# CERTIFICATE OF ANALYSIS

Report GSA-COA-000077-07701-20261118 · issued Nov 25, 2026

**Marc Geer**

| PRODUCT | ORDER | SAMPLE |
|---|---|---|
| NAD+ | GSA-2026-000077 | 077-01 |
| **LABEL** | **ISSUED** | |
| NAD+ 500 mg | Nov 25, 2026 | |




THE SAMPLE AS RECEIVED

**IDENTITY** ✓

**NAD+**

confirmed by mass

**PURITY**

**99.41 %**

HPLC-UV, 260 nm, mean of 2 injections

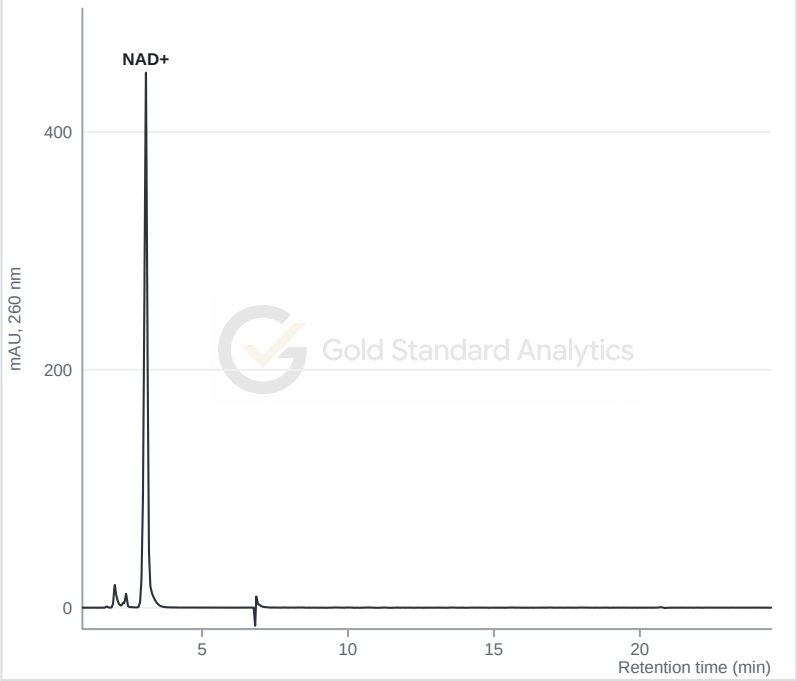
**NET CONTENT**

**494.12 mg**

per vial; 98.8 % of the declared 500 mg

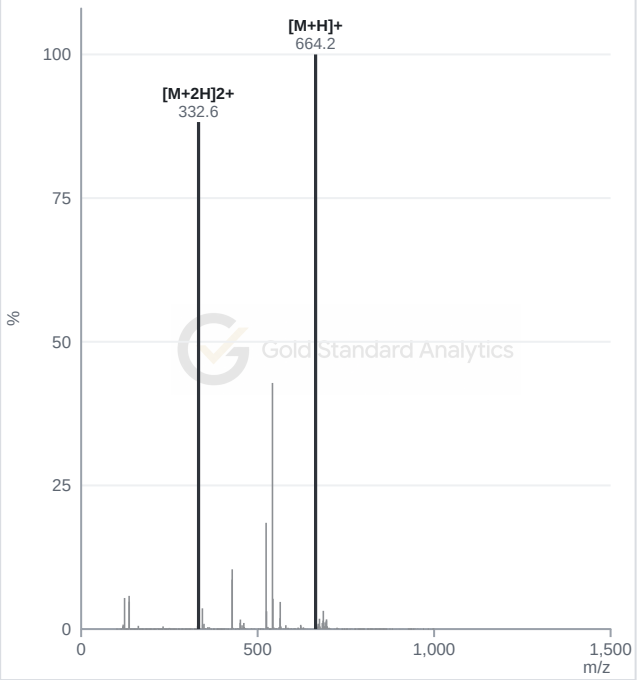
## HPLC CHROMATOGRAM

UV, 260 nm




## MASS SPECTRUM

main peak (3.08 min)




RELEASED BY

**Ian Ebert**

Laboratory Director · Nov 25, 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

Order GSA-2026-000077 · Sample 077-01 · Marc Geer

| | | | |
|---|---|---|---|
| Customer | **Marc Geer** | Prepared | **16 Nov 2026** |
| Order | **GSA-2026-000077** | Tested | **18 Nov 2026** |
| Sample | **077-01** | Tests | **Identity, Purity, Net content** |
| Label | **NAD+ 500 mg** | | |

## Graphs

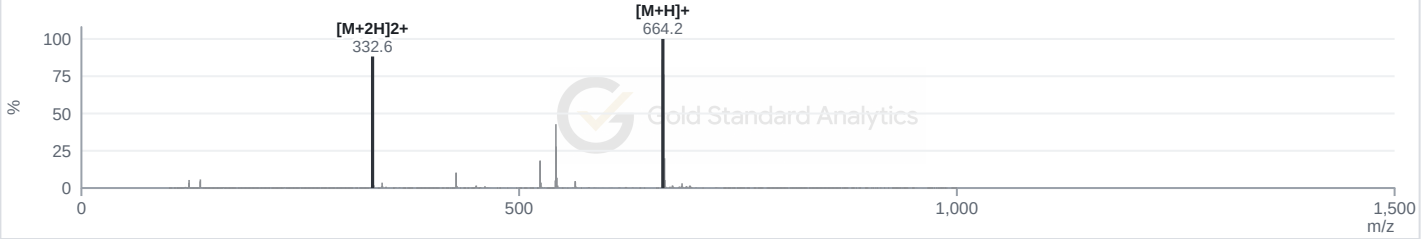
### HPLC CHROMATOGRAM

HPLC chromatogram (UV, 260 nm) · mAU, 260 nm against Retention time (min)




### MASS SPECTRUM

Mass spectrum of the main peak (3.08 min) · Counts against m/z



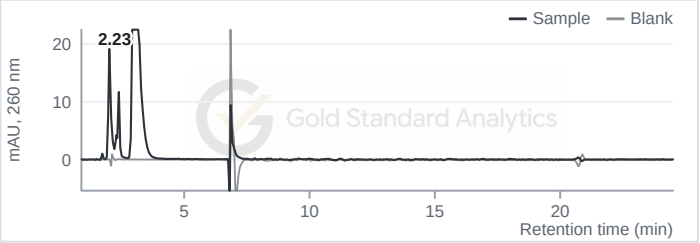

## Results

| | |
|---|---|
| Identity | **Consistent with NAD+.** The main peak is NAD+ at 3.08 min (m/z 664.2 and m/z 332.6; measured mass 663.2, expected 663.4). The order also names 5-Amino-1MQ and MOTS-c; neither was detected in this vial. |
| Purity | **99.41 %** by HPLC with UV detection at 260 nm (share of the total peak area), the mean of two injections (99.31 % and 99.61 %). 2 impurities were found and are listed below. Unexplained peaks count above about 0.33 % of the NAD+ peak height; breakdown products of NAD+ identified by mass count down to about 0.07 % of it. The sharp feature at about 7 min comes from the instrument, not the sample: it appears in every run, blank solvent included. |
| Net content | **494.12 mg per vial** (98.8 % of the declared 500 mg). |

## Zoomed views

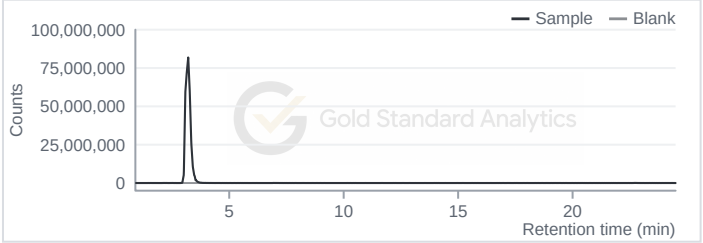
### HPLC, SMALL PEAKS

Zoomed in on the small peaks (5 % of the main peak) · mAU, 260 nm against Retention time (min)




### ION TRACE

Ion trace, m/z 664.1 (NAD+ [M+H]+): sample vs blank · Counts against Retention time (min)




## Impurities

Every peak other than NAD+ that was counted:

| PEAK (MIN) | AMOUNT | WHAT IT IS |
|---|---|---|
| 2.01 | 0.40 % | ADP-ribose (mass 559), a breakdown product of NAD+: NAD+ that has lost its nicotinamide part. |
| 2.23 | 0.19 % | Nicotinamide (mass 122), a breakdown product of NAD+. |

Amounts are each peak's share of the total UV peak area at 260 nm, the mean of the two injections.

## 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, 45 °C; water and acetonitrile, each with 0.1 % formic acid. Purity: UV peak area at 260 nm, where NAD+ absorbs, after subtracting a blank run in the same sequence; two injections. Identity: molecular mass from the mass spectrum; the ions of 5-Amino-1MQ and MOTS-c were searched over the whole run and compared with a blank run. 1 µL injected; autosampler at 12 °C. Net content: UV absorbance at 260 nm of the NAD+ peak, using the absorptivity of NAD+, scaled by the volumes used: the whole vial dissolved in 10 mL, 1 part of that diluted to 5, and 0.10 mL of that diluted to 1.0 mL; its uncertainty is roughly ±16 %.

## Notes

Results apply only to the sample as received and tested.

## 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

goldstandardanalytics.com

# Release record

Report GSA-COA-000077-07701-UPL-d9b6888f8076 · Certificate GSA-2026-798901

| | |
|---|---|
| **Customer and order** | Marc Geer · GSA-2026-000077 |
| **Sample and report** | 077-01 · Certificate of Analysis |
| **Report reference** | GSA-COA-000077-07701-UPL-d9b6888f8076 |
| **Certificate accession** | GSA-2026-798901 |
| **Released and signed by** | Ian Ebert, Laboratory Director |
| **Date and time (UTC)** | 2026-11-25 23:01:32Z |
| **Signature meaning** | Approved for release. The signer reviewed this report and approved its release to its customer. |
| **Approval reference** | 61f67762-c160-45e3-a533-a1d75a8258f3 |
| **Electronic signature** | Signed electronically in a signed-in GSA staff account. |
| **Original report SHA-256** | c075e8d4018e9ee58366e765b4d224809f31d09c68116bc5ee2626a49dddc4b7 |
| **Verify this certificate** | https://goldstandardanalytics.com/coa/GSA-2026-798901 |

Scan to view this certificate online

**Signature**



Ian Ebert, Laboratory Director