



# HOW TO READ A CERTIFICATE OF ANALYSIS

A laboratory reference for Emerald Tides research materials

## IDENTITY

Does the material match  
the named compound?

## PURITY

What share of the sample  
is the intended analyte?

## TRACEABILITY

Does the lot on the vial  
match the CoA lot?

A Certificate of Analysis (CoA) is lot-specific analytical documentation. It records how a batch was tested — not a license for use in people or animals, and not FDA approval.

## INSIDE THIS GUIDE

- What a CoA is — and what it is not
- How to match a vial lot to a CoA
- The fields you will see most often
- How Emerald Tides documents testing
- What to do if a result looks off
- BT Labs fields and how to verify a Report #

[emeraldtides.ai](https://emeraldtides.ai)

Laboratory research materials • Third-party tested • Virginia, USA

Not a drug, medicine, dietary supplement, or medical product. Not evaluated by the FDA.

## WHAT A COA IS — AND WHAT IT IS NOT

A Certificate of Analysis is a laboratory report tied to a specific lot. It describes analytical measurements taken on that batch at the time of testing. Emerald Tides supplies product-specific CoAs supported by independent third-party testing through partners such as JANOSHIK and BT Labs ([btlabtesting.com](https://btlabtesting.com)), with additional U.S. laboratory analysis used to document identity, purity, and other applicable quality parameters.

### A CoA IS

#### *Documentation.*

A snapshot of how one lot performed under named analytical methods. It supports receiving, inventory, and experimental planning by recording identity and purity data for that batch.

### A CoA IS NOT

#### *Approval or directions for use.*

Not FDA approval, clearance, or endorsement. Not a certificate that the material is safe or appropriate for human or veterinary use. CoA results do not authorize administration to any living organism.

## MATCH THE VIAL TO THE DOCUMENT FIRST

Read the CoA only after you confirm it belongs to the container in hand. A CoA for a different lot does not describe the vial you are opening.

- 1 Product name. Confirm the compound name on the CoA matches the label on the vial or vial box.
- 2 Lot / batch number. The lot on the CoA must match the lot printed on the container. This is the primary match key.
- 3 Testing lab. Note the laboratory that performed the work (JANOSHIK or BT Labs) and the report number or sample ID.
- 4 Date of analysis. Results describe the lot at the time of testing. Storage after that date can change the material.

## EMERALD TIDES DOCUMENTATION STANDARD

Current CoAs are listed at [emeraldtides.ai/coas/](https://emeraldtides.ai/coas/). If the lot you received is not posted, email [support@emeraldtides.ai](mailto:support@emeraldtides.ai) with the product name and the lot number from the vial. Files may be issued by JANOSHIK or by BT Labs. For a BT Labs PDF, also record the Report # and confirm it at [verify.btlabtesting.com](https://verify.btlabtesting.com). Standard catalog items are guaranteed at 99% purity or higher unless a product-specific threshold is stated on the product page or CoA. Third-party testing documents analytical characteristics. It does not mean the product is FDA approved.

## FIELDS YOU WILL SEE ON MOST PEPTIDE COAS

Layouts vary by laboratory. The names below are the ones researchers use most often when reviewing Emerald Tides documentation. A given CoA may include a subset of these fields.

### PRODUCT / SAMPLE NAME

*Identity block.*

The compound as submitted for analysis. Confirm it matches the catalog name and the vial label before reading any result.

### LOT OR BATCH NUMBER

*Traceability.*

The unique production lot. If this does not match the vial, stop and request the correct CoA. Do not use another lot's report as a substitute.

### APPEARANCE

*Physical description.*

What the laboratory observed (for example white to off-white lyophilized powder). A large mismatch with the material in hand is a reason to pause and ask support.

### MOLECULAR WEIGHT / FORMULA

*Expected structure.*

Theoretical mass and formula for the named sequence or compound. Used as the reference for mass-spectrometry identity checks.

### SEQUENCE (PEPTIDES)

*Primary structure.*

Amino-acid sequence when the material is a peptide. Confirm it is the sequence you intended to order.

### HPLC PURITY

*Main purity figure.*

High-performance liquid chromatography reports the area percent of the main peak versus other observed peaks under the stated method. This is the number most often compared with the 99% catalog threshold.

### MASS SPECTROMETRY (MS)

*Identity confirmation.*

Observed mass should agree with the theoretical molecular weight within the method's tolerance. MS supports that the main species is the named compound; it is not a purity assay by itself.

### WATER / RESIDUAL SOLVENT / COUNTER-ION

*Secondary composition.*

Some reports include moisture, TFA or acetate content, or residual solvent. These explain mass balance and reconstitution behavior. They are not the same thing as HPLC purity.

### METHOD AND CONDITIONS

*How the number was produced.*

Column, wavelength, gradient, and instrument notes. Purity values are method-dependent. Compare lots only when the methods are the same or clearly equivalent.

### CHROMATOGRAM / SPECTRUM

*Supporting figures.*

The HPLC trace or MS spectrum behind the summary table. A clean main peak with well-resolved impurities is what the purity percentage is summarizing.

### DATE, ANALYST, LABORATORY

*Custody of the result.*

Who tested the lot, when, and under which report ID. Keep this with your receiving records so the vial and the file stay linked.

### SPECIFICATION VS. RESULT

*Pass logic.*

When a specification column is present, the result is compared with a stated limit (for example  $\geq 99\%$  by HPLC). A result inside specification is still lot-specific — it is not a standing warranty for every future handling condition.

## HOW TO READ THE PURITY NUMBER

Look at the method first. A 99.2% HPLC result is only meaningful next to the method that produced it. Different columns or detection wavelengths can move the number.

Main peak vs. related substances. Purity is usually the main-peak area percent. Related-substance or impurity lines, when present, explain the remainder.

Identity and purity are separate questions. Mass spec can confirm the right compound while HPLC tells you how much of the sample that compound represents.

One lot, one report. Do not average CoAs across lots or apply an old lot's purity to a new shipment.

After the test date. Heat, moisture, light, and reconstitution can change a material. The CoA does not describe conditions after the laboratory finished the analysis.

## IF SOMETHING DOES NOT MATCH

Do not proceed with the lot if the product name or lot number is wrong, the appearance is inconsistent with the CoA, the purity result is below the stated specification, or the file appears incomplete or altered. Photograph the vial label, note the order number, and write [support@emeraldtides.ai](mailto:support@emeraldtides.ai) with the product name and lot. If you independently test a lot at an approved laboratory and the result falls below the published purity threshold, review the current Purity Guarantee terms on [emeraldtides.ai](https://emeraldtides.ai) before submitting documentation.

## WHERE TO GET THE COA

### POSTED COAs

[emeraldtides.ai/coas/](https://emeraldtides.ai/coas/)

Open the Lab Tests page and select the product. Confirm the posted file is the same lot as the vial before relying on the results.

### REQUEST A LOT FILE

[support@emeraldtides.ai](mailto:support@emeraldtides.ai)

Send the product name and the lot number printed on the container. Qualified researchers can also ask questions about method notes or missing pages.

## READING A BT LABS COA

BT Labs ([btlabtesting.com](https://btlabtesting.com)) is one of the independent laboratories that appears on Emerald Tides documentation. A BT Labs certificate is a multi-page analytical report. Confirm the laboratory name, West Palm Beach letterhead, and the unique Report # before reading results. Then verify that number at [verify.btlabtesting.com](https://verify.btlabtesting.com).

### REPORT #

*Verification key.*

Printed near the top of the CoA (example pattern: a long alphanumeric string). Enter that exact Report # at [verify.btlabtesting.com](https://verify.btlabtesting.com) to confirm the file exists in the laboratory's database and has not been swapped.

### BT SAMPLE ID

*Laboratory accession.*

BT Labs' internal sample identifier, separate from the Emerald Tides lot number. Keep both IDs with receiving records so the vial, the supplier lot, and the lab accession stay linked.

### TESTING MATERIAL / LABELED AS

*Identity header.*

The compound name submitted for analysis and the name printed on the container. Both should match the Emerald Tides product and the vial in hand.

### FTIR IDENTITY

*Spectroscopic confirmation.*

Fourier-transform infrared spectroscopy compares the sample spectrum with a reference for the named peptide. The narrative may also note excipients or fillers (for example mannitol) when they are present in the formulation.

### HPLC PURITY

*Main-peak area percent.*

Peptide assay by HPLC, often cited to USP <621>. BT Labs reports commonly list a specification such as  $\geq 98\%$  next to the measured purity. Compare this figure with the Emerald Tides catalog threshold for that product.

### HPLC POTENCY

*Amount vs. label claim.*

A separate HPLC assay of how much peptide is in the container versus the labeled content (for example 10 mg). Reported as milligrams and as a percent of label. Purity and potency are not interchangeable — a high-purity peak can still be under-filled.

### LABELED CONTENT / PACKAGING

*Receiving check.*

Labeled milligram claim, storage condition, and a short visual description of the vial and closure. Use this block to confirm you opened the same presentation the laboratory received.

### DATE TESTED + SIGN-OFF

*Custody.*

Date tested, report date, and laboratory sign-off. Results describe the sample as received on that date. They do not describe storage or reconstitution after the test.

Verify a BT Labs file: open [verify.btlabtesting.com](https://verify.btlabtesting.com), enter the Report # from the CoA, and confirm the record matches the product name and lot on your vial. If the portal does not return the report, or the names do not match, stop and email [support@emeraldtides.ai](mailto:support@emeraldtides.ai) with the product, lot, and Report #. Posted Emerald Tides files remain at [emeraldtides.ai/coas/](https://emeraldtides.ai/coas/).

## RESEARCH USE ONLY

All Emerald Tides products are sold strictly for Research Use Only (RUO). They are intended exclusively for qualified scientific and laboratory research and are not intended for human or veterinary use, consumption, diagnosis, treatment, prevention, or mitigation of any disease or condition. Products are not offered as drugs, medicines, dietary supplements, or medical products. Certificates of Analysis document analytical characteristics of a specific lot at the time of analysis. They are not directions for use in any living organism and should not be interpreted as FDA approval, authorization, clearance, or endorsement. Buyer must be a qualified researcher or laboratory professional, assumes all liability, and must be 21 years or older.