

PURE7 Knowledge Center - Phase 5 Research & Transparency

A clear guide to current kratom research, product testing, batch records, QR-linked documentation, and consumer-facing transparency systems.

🔍 **Category:** Botanical Science ⬤ **Phase:** Introductory 📄 **Topic:** Mitragyna Speciosa

TABLE OF CONTENTS

SECTION	PURPOSE
01 Current Kratom Research	Chemistry, plant science, pharmacology, safety questions, and analytical testing.
02 Future of Kratom Science	Better standards, better data, and more transparent manufacturing systems.
03 Research Simplified	How to summarize studies in plain language without overstating the findings.
04 Interactive Transparency Systems	QR-linked COAs, lot lookups, batch records, and verification pages.
05 Glossary & FAQ	Common terms and practical questions for beginners.

01 Current Kratom Research

Modern kratom research looks at the plant from several angles: where it comes from, what compounds it contains, how those compounds interact with biological systems, and how commercial products can be tested for identity, purity, and consistency.

Key research areas

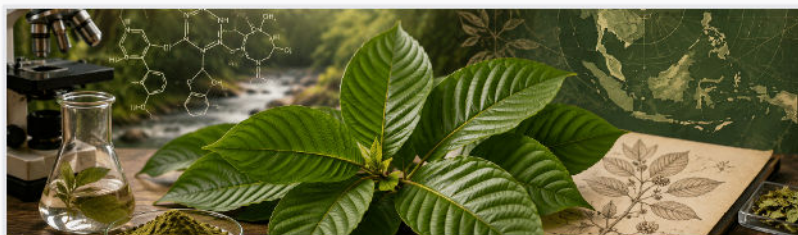
- 🔍 Ethnobotany: documenting the traditional use and regional variation of *Mitragyna speciosa* leaves in Southeast Asia.
- 🔍 Chemistry: identifying alkaloids such as mitragynine, 7-hydroxymitragynine, speciogynine, paynantheine, and other minor compounds.
- 🔍 Pharmacology: studying how specific alkaloids interact with receptors and enzymes in laboratory models.
- 🔍 Product quality: comparing raw leaf, extracts, tablets, liquids, and other formats for potency and consistency.
- 🔍 Safety and risk: reviewing adverse event reports, drug interaction questions, labeling issues, and patterns of use.

Important context

Research does not mean every question has been answered. Some studies are laboratory-based, some rely on surveys, and some examine commercial products that may differ widely in formulation. A responsible knowledge center should explain what a study suggests while also making clear what it does not prove.

Suggested website callout

Research is ongoing. PURE7 presents testing and product documentation so customers can review what is in a specific batch, rather than relying only on general claims about kratom.



02 Future of Kratom Science

The future of the category will likely depend on stronger testing standards, clearer labels, better manufacturing controls, and more useful public information. Brands that make documentation easy to access will be better positioned than brands that treat lab testing as an afterthought.

Where the industry is moving

- 🔍 More precise alkaloid testing, including batch-specific mitragynine and 7-hydroxymitragynine results.
- 🔍 Expanded contaminant screening for heavy metals, microbes, residual solvents, pesticides, and adulterants.



- Standardized lot codes that connect finished goods back to raw material, production date, and test records.
- Clearer serving information that avoids vague wording and reduces confusion for retailers and customers.
- Greater separation between naturally occurring kratom leaf products and highly concentrated or altered products.

Transparency as a business advantage

Transparency is not just a compliance idea. It can also make the brand easier to trust. A retailer should be able to scan a product, confirm the lot number, view the matching COA, and understand the basic meaning of the results without needing to contact customer support.



03 Research Simplified

Research summaries should be written in plain language. The goal is to help readers understand the topic without turning a single study into a marketing claim. A good summary separates the study question, the method, the finding, and the limitation.

Simple study summary format

PART	WHAT TO INCLUDE
Study question	What were the researchers trying to understand?
Method	Was it a lab study, animal study, survey, chemical analysis, or clinical observation?
Main finding	What did the study report in simple language?
Limitations	What should readers not assume from this study?
Brand takeaway	How does this support better testing, labeling, or transparency?



04 Interactive Transparency Systems

A transparency system lets a customer or retailer verify a product using the code printed on the package. The best version is simple: scan the QR code, confirm the lot number, open the COA, and review the results in a format that is easy to understand.

- Step 1: Customer scans the QR code printed on the package.
- Step 2: The page asks the customer to confirm or enter the lot number.
- Step 3: The system displays the matching COA and product details.
- Step 4: The page explains each test category in plain language.
- Step 5: The page includes contact information for questions or missing documentation.

ITEM	WHY IT MATTERS
Product name and size	Confirms the report belongs to the product in hand.
Lot or batch number	Connects the package to the correct production record.
COA date and lab name	Shows when testing was performed and who performed it.
Alkaloid results	Shows measured active alkaloid levels for that batch.
Contaminant results	Shows screening for materials such as heavy metals, microbes, and solvents when applicable.
Status explanation	Uses simple terms like Passed, Not Detected, Below Limit, or See Report.



05 Batch Records and COA Basics

A Certificate of Analysis, often called a COA, is a lab report connected to a specific material, lot, or finished product. A COA is most useful when it is easy to match to the exact product and batch in the customer's hand.

Basic batch record fields

- ✓ Raw material lot number
- ✓ Supplier or internal receiving code
- ✓ Manufacturing date
- ✓ Finished product lot number
- ✓ Product name and strength/serving information
- ✓ Quantity produced
- ✓ Lab report ID
- ✓ Release date
- ✓ Reviewer initials
- ✓ Notes for exceptions or rework



Plain-language COA explanation

A COA should not be treated as decoration. It should be a real document that matches the product lot and gives customers a way to confirm what was tested, when it was tested, and what the reported results mean.

06 Glossary & FAQ

Alkaloid: A naturally occurring plant compound. Kratom contains multiple alkaloids, with mitragynine being one of the most studied.

Mitragynine: A major kratom alkaloid commonly measured in lab testing and frequently discussed in research.

7-hydroxymitragynine: A minor alkaloid and metabolite that receives attention because of its potency and safety questions. Levels can vary by product.

COA: Certificate of Analysis. A lab report showing test results for a sample, lot, or batch. Lot number: A tracking code that connects a product to a production batch and supporting records.

LOD / LOQ: Lab terms for detection and quantification limits. They help explain whether a compound was not found or was found below a measurable level.

Contaminant panel: Testing for unwanted materials such as heavy metals, microbes, residual solvents, pesticides, or adulterants.

Traceability: The ability to track a product from raw material through production, testing, packaging, and distribution.



FAQ

- + Why scan a QR code? >
- + Does a COA mean a product is FDA-approved? >
- + Why do results vary between batches? >
- + What should a customer do if the QR code does not work? >

Source Notes & Responsible Language

Use sources carefully and keep website language neutral. Avoid disease claims, treatment claims, guaranteed effect language, or statements that imply formal regulatory approval where none exists.

Reliable source categories to reference

- ✓ Peer-reviewed research articles and reviews on kratom chemistry, toxicology, and pharmacology.
- ✓ National Institutes of Health resources, including NCCIH and NIDA materials.
- ✓ FDA public communications and warning letters when discussing regulatory concerns.
- ✓ Independent third-party laboratory reports for product-specific transparency.

Draft disclaimer for website footer

Disclaimer

The information on this page is provided for general product knowledge and transparency. It is not medical advice and should not be used to diagnose, treat, cure, or prevent any disease. Customers should consult a qualified professional regarding health questions and should review applicable laws in their area before purchasing.

Selected references used for this phase

- ✓ NIH National Center for Complementary and Integrative Health: Kratom overview and research discussion.
- ✓ NIH/NIDA: Public health and addiction research mission and kratom-related research context.
- ✓ FDA: Public statements and warning communications related to kratom and 7-hydroxymitragynine products.
- ✓ Henningfield et al. (2024): Kratom safety and toxicology in the public health context.
- ✓ Todd et al. (2020): Commercial kratom product chemistry and alkaloid profiles.

