

Tryptophan: The Gut Super Nutrient Your Gut Health Test Measures

By Robert Ferguson

You have probably heard that gut health is important. You may have even heard that your low mood, brain fog, food cravings, or overall health could improve if your gut were healthier. The challenge is knowing what is really happening inside your gut. What test should you take? What actually works?

Many people hear about stool testing. You might even be willing to do it, but you may wonder what it costs, how accurate it is, and how you feel about mailing your poop to a lab. Most people agree it feels a little strange.

The good news is that science has advanced. There is now a Gut Health Test that does not require stool. This at-home test uses a small blood sample and gives you real insight into your gut and overall health. A simple finger-prick test you can do from home can help explain low mood, cravings, poor sleep, low energy, gut issues, inflammation, and many chronic conditions.

The key to this Gut Health Test is understanding how your body uses tryptophan (TRIP-toh-fan) and whether it supports health or feeds inflammation. Most people hear the word tryptophan and think of turkey and feeling sleepy after a holiday meal. But tryptophan is one of the most important amino acids for your gut, brain, mood, immune system, and long-term health.

This article explains what tryptophan (TRIP-toh-fan) is, why it matters, and how the Gut Health Test uses three key metabolites — tryptophan, kynurenine (kai-NEW-ruh-neen), and indole 3 propionic acid (IN-dohl three pro-pee-OH-nick acid), also called IPA — to reveal the truth about your gut health. You will learn what each of these metabolites does and why they are so important as you continue reading.

What Is Tryptophan

Tryptophan (TRIP-toh-fan) is an essential amino acid, which means your body cannot make it. You must get it from food. Foods rich in tryptophan include chicken, turkey, eggs, salmon, tuna, nuts, dairy, and beans.

To understand how tryptophan works, imagine taking a bite of turkey. You chew it, and your saliva begins breaking it down. This is where your microbiome begins. The gut microbiome is the community of trillions of bacteria that live throughout your digestive tract, from your mouth to your anus.

As the food reaches your stomach, acids and enzymes begin breaking the proteins into smaller pieces. When the food enters your small intestine, more enzymes continue the process until the protein is broken down into individual amino acids. One of these amino acids is tryptophan.

Although the microbiome is present throughout your entire digestive system, the most influential and active microbiome communities that affect tryptophan live in your small and large intestines. This is where tryptophan becomes available for use and where your microbiome helps determine which pathway tryptophan will follow.

What Is a Metabolite?

A metabolite is something your body makes as it breaks down food, nutrients, or chemicals. Think of metabolites as products created during digestion and metabolism.

For example:

- When your body metabolizes tryptophan, it creates metabolites like:
 - serotonin (sair-uh-TOH-nin)
 - kynurenine (kai-NEW-ruh-neen)
 - indole 3 propionic acid (IN-dohl three pro-pee-OH-nick acid), also called IPA

These metabolites help show what is happening inside your gut, your stress levels, your inflammation levels, and your overall health. The Gut Health Test measures these metabolites because they give a clearer picture of gut function than most standard blood tests.

Understanding What a Pathway Is

A pathway is simply the route something takes inside your body. Think of tryptophan like a traveler on a road trip. Once it enters your gut as an amino acid, it must choose one of several roads. Each road leads to a different destination, and each destination creates a different effect on your health.

Pathways are like:

- A recipe your body follows to turn one ingredient into something new
- A set of steps your body uses to make important chemicals
- A highway system with different exits leading to different outcomes

Tryptophan (TRIP-toh-fan) has three main roads it can travel:

1. One road leads to serotonin (sair-uh-TOH-nin), which supports mood and sleep.
2. One road leads to kynurenine (kai-NEW-ruh-neen), which increases during inflammation.
3. One road leads to indole-3-propionic acid (IN-dohl three pro-pee-OH-nick acid), also called IPA, a powerful antioxidant produced by healthy gut bacteria.

Your Gut Health Test reveals the main pathway tryptophan follows.

The Three Tryptophan Pathways

1. The Serotonin Pathway

Tryptophan becomes 5-hydroxytryptophan, or 5-HTP (five H-T-P), which then becomes serotonin (sair-uh-TOH-nin). About 90 percent of serotonin is made in the gut. Serotonin supports mood, sleep, digestion, gut movement, cravings, and appetite.

2. The Kynurenine Pathway

When inflammation or stress increases, the body diverts tryptophan into kynurenine (kai-NEW-ruh-neen). High kynurenine is an early sign of inflammation and immune system activation.

3. The Indole 3 Propionic Acid (IPA) Pathway

Certain healthy gut bacteria convert tryptophan into indole 3 propionic acid (IN-dohl three pro-pee-OH-nick acid), also called IPA. IPA is a strong antioxidant that protects the gut lining, brain, and liver.

Target Ranges and What They Mean

These are the clinical target ranges measured in the Gut Health Test.

Tryptophan

Target range: 45.2 to 63.1

In range supports:

- Serotonin potential
- Better protein digestion
- Improved mood, sleep, and digestion

Low tryptophan may reflect:

- Inflammation redirects tryptophan
- Poor absorption
- Stress
- Low protein intake

High tryptophan may reflect:

- Gut dysbiosis
- Stress blocks normal conversion
- Impaired metabolism

Low Tryptophan From Low Protein Intake

Because tryptophan is essential, it must come from food. People who do not consume enough high-protein foods often have low tryptophan levels.

Groups commonly with low tryptophan levels include:

- People who do not eat meat
- People who avoid eggs or dairy
- Vegans and vegetarians without balanced protein
- Meal skippers
- Processed food eaters
- Older adults
- People under chronic stress

Low tryptophan may cause:

- Mood problems
- Cravings
- Low energy
- Poor sleep
- Irritability
- Digestive problems

Low tryptophan often appears alongside high kynurenine when inflammation is present.

Kynurenine

Target range: 1.1 to 1.87

Kynurenine (kai-NEW-ruh-neen) reflects inflammation.

High kynurenine may be caused by:

- Chronic stress
- High omega-6 to omega-3 ratio
- Low polyphenols
- Poor sleep
- Gut dysbiosis
- Immune activation
- Processed foods

Low kynurenine usually indicates low inflammation, unless tryptophan is also low due to poor intake or absorption.

Indole 3 Propionic Acid (IPA)

Target range: 2.41 to 5.99

IPA is made only by certain healthy gut bacteria.

Low IPA may reflect:

- Low fiber
- Low polyphenols
- Weak gut lining
- Dysbiosis
- Higher inflammation

IPA within the range supports gut barrier function, antioxidant protection, and a healthier bacterial balance.

How These Three Markers Work Together

Tryptophan low + Kynurenine high:

Inflammation is diverting tryptophan away from serotonin.

Tryptophan high + Kynurenine high:

Inflammation is blocking conversion pathways.

IPA low + Kynurenine high:

Inflammation plus poor gut bacterial diversity.

All three in range:

Ideal pattern for gut health, low inflammation, and strong gut-brain communication.

The Gut-Brain Pathway and the Vagus Nerve

Your gut and brain communicate through the vagus nerve. This is a two-way communication system, but nearly 90 percent of signals travel from the gut to the brain.

When tryptophan becomes serotonin (sair-uh-TOH-nin) or IPA (IN-dohl three pro-pee-OH-nick acid), the gut sends healthy, calming signals to the brain.

When inflammation pushes tryptophan into kynurenine (kai-NEW-ruh-neen), the gut sends stress-related signals instead.

This is one reason why gut health strongly affects mood, cravings, focus, stress response, and sleep.

What Pushes These Markers Out of Range

- High omega-6 to omega-3 ratio
- Low polyphenols
- Low fiber
- Processed foods
- Stress
- Poor sleep
- Alcohol
- Toxins
- Chronic inflammation
- Gut dysbiosis

How to Support a Healthy Tryptophan Pathway

1. Improve your omega-6 to omega-3 ratio
2. Increase polyphenols
3. Eat more fiber
4. Reduce stress
5. Improve sleep
6. Limit processed foods

Why This Test Is a Breakthrough

Most people never learn how their body uses tryptophan. They guess, while inflammation and gut dysfunction quietly grow for years.

The Gut Health Test reveals what is happening inside your gut. These three metabolites show more about your inflammation, mood, metabolism, and long-term health than most standard blood tests.

When you improve your gut, everything improves.

If you want clarity about your gut, your inflammation levels, and your long-term health, take the Gut Health Test. Message me or email me at robert@dietfreelife.com, and I will help you get started, understand your results, and create a personalized plan to improve your gut and overall health.

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About the Author

Robert Ferguson is a California- and Florida-based single father of two daughters, clinical nutritionist, Omega Balancing Coach™, researcher, best-selling author, speaker, podcast and television host, health advisor, NAACP Image Award Nominee, creator of the Diet Free Life methodology, and Chief Nutrition Officer for iCoura Health. He also serves on the Presidential Task Force on Obesity for the National Medical Association and the Health and Product Advisory Board for Zinzino, Inc.