

Your Gut Makes One of the Most Powerful Antioxidants in the Body, But Almost No One Is Talking About It

Indole-3 Propionic Acid (IPA): What It Is, How It's Made, and Why Your Gut Health Matters

By Robert Ferguson

Let me ask you a few simple questions.

Do you agree that gut health is important for overall health?

Do you agree that antioxidants help protect your body from damage, toxins, and disease?

Most people would say yes.

Now here is the real question:

What if your body could make one of the most powerful antioxidants on its own, right inside your gut?

And what if that compound played a role in:

- Brain health
- Blood sugar control
- Inflammation
- Overall health

Would you want to know about it?

Of course you would.

And that is exactly what you are about to learn.

But here is the surprising part.

Even though this compound is so important, most people have never heard of it.

That includes many:

- Gastroenterologists
- Physicians
- Nutritionists
- Registered dietitians
- Health coaches
- Wellness experts

Not because it is not important.

But it is rarely talked about.

That compound is called **Indole-3 Propionic Acid**, or **IPA**.

And it may be one of the most important things your body makes that you have never heard of.

What Is Indole-3 Propionic Acid (IPA)?

Indole-3 Propionic Acid (IPA) is a natural compound made by bacteria in your gut.

You do not eat IPA directly.

You cannot buy a supplement that gives you IPA.

Instead, your body makes it when gut bacteria break down a nutrient called **tryptophan**, but this process depends on having enough dietary fiber to support those bacteria [1].

Tryptophan is found in both animal and plant foods.

Plant sources include:

- Beans and lentils
- Nuts and seeds
- Oats
- Soy foods

Animal sources include:

- Turkey
- Eggs
- Dairy
- Fish

But what matters most is not just how much tryptophan you eat.

It is how well your gut bacteria can use it.

How Is IPA Made?

Here is a simple way to understand it:

1. You eat foods with tryptophan
2. Your gut bacteria use it as a building block
3. Those bacteria need fiber and polyphenols to grow
4. When the environment is right, they produce IPA

Certain beneficial gut bacteria, especially species from the Clostridium family such as *Clostridium sporogenes*, are responsible for converting tryptophan into IPA [1,3].

Without a healthy gut, your body struggles to produce enough IPA to make a real difference.

Why IPA Matters

IPA is not just another compound.

Research shows that it is one of the most powerful antioxidants produced in the body [5].

It helps protect your cells from damage and oxidative stress.

It can also cross the blood-brain barrier, making it especially important for long-term health [5].

IPA and Brain Health

Your brain is sensitive to oxidative stress.

IPA helps protect against this damage and may support long-term brain health [5].

IPA and Blood Sugar

Higher IPA levels are associated with:

- Better insulin sensitivity
- Better blood sugar control
- Lower risk of type 2 diabetes [2]

The Fiber Gap: Why Most People Struggle to Produce IPA

About **93% of people do not get enough dietary fiber** [4].

Fiber feeds the bacteria that produce IPA.

Without enough fiber:

- Good bacteria struggle to survive
- Gut diversity declines
- IPA production drops

What Research Shows About Diet and IPA Levels

A Clear Pattern: IPA Drops as Diet Becomes More Animal-Based

In a large European dataset analyzing dietary patterns and gut-derived compounds, researchers compared IPA levels across diets.

Participants ranged from plant-based to animal-based eating patterns:

- Vegan (no animal products at all, no meat, dairy, eggs, or fish)
- Vegetarian (no meat or fish, but may include dairy and eggs)
- Pescetarian (includes fish and seafood, but no other meats)
- Mediterranean (includes fruits, vegetables, whole grains, fish, olive oil, and some meat)
- Omnivorous (includes both plant foods and all types of animal foods)
- Low-carb/Keto (very low in carbohydrates, higher in fats and animal-based foods)
- Carnivore (only animal-based foods, no plant foods at all)

The results showed a clear trend:

IPA levels decreased as diets became more animal-based.

Median IPA levels (commonly measured in micromoles per liter, $\mu\text{mol/L}$) ranged from:

- 2.71 in vegans
- 2.09 in vegetarians
- 1.79 in pescetarians
- 1.50 in Mediterranean diets
- 1.27 in omnivorous diets
- 1.12 in low-carb/keto diets
- 0.76 in carnivore diets

This is nearly a fourfold difference.

Why This Happens

IPA production depends on gut bacteria.

And those bacteria depend on what you eat.

Plant-based diets provide:

- Fiber
- Polyphenols

These support beneficial bacteria [1].

Animal-only diets provide:

- Little to no fiber

So even if tryptophan is present:

Without the right environment, IPA production is limited.

Connecting the Dots: IPA, Inflammation, and Your Cell Membranes

Your gut, inflammation, and cell membranes are all connected.

Your cell membranes act like gates.

They control:

- What enters your cells
- What leaves your cells
- How your body responds to insulin and nutrients

When your cell membranes are healthy and flexible:

Your body functions better.

When they are stiff and inflamed:

Your metabolism and cellular function decline.

Omega-3 fatty acids help improve membrane flexibility.

Polyphenols help protect these fats and support gut bacteria [1].

Where BalanceOil+ Fits In

BalanceOil+ provides omega-3 fatty acids and polyphenols.

This combination helps:

- Support healthy cell membranes
- Reduce inflammation
- Support gut bacteria

Omega-3s do not directly produce IPA.

However, they help improve the environment in your gut by reducing inflammation and supporting healthy cell membranes.

This creates better conditions for the bacteria that produce IPA to function properly.

The “Pink Elephant” Most People Aren’t Talking About

Most people, including many health professionals, are not talking about IPA.

Not because it is not important.

But it is not commonly measured or taught.

A Real Moment I’ve Experienced

When I bring up IPA to health professionals, I often get a blank look.

Not because they do not care.

But because they have never learned about it.

This Is Where “Measure, Not Guess” Comes In

If something is not being measured, it is easy to ignore.

That is why guessing is not enough.

You need data.

Connecting IPA to What You Can Measure

IPA itself is not commonly tested in standard care.

But the environment that produces it can be measured.

This includes:

- TRP (Tryptophan)
- KYN (Kynurenine)
- IPA (Indole-3 Propionic Acid)

There are now at-home testing options available, including a **Gut Health Test**, that can measure these markers.

Final Thoughts

Indole-3 Propionic Acid is not something you buy.

It is something your body makes.

But only if your body is in the right environment.

When your gut is healthy:

- You produce more IPA
- Your body is better protected

When it is not:

- You lose that protection

If you are interested in learning more about your internal environment, including your ability to produce compounds like IPA, or if you would like access to an at-home **Gut Health Test** that measures TRP, KYN, and IPA...

Or if you want to learn more about **BalanceOil+** and its unique combination of omega-3 fatty acids and polyphenols...

You can contact the person who shared this article or email me directly at robert@dietfreelife.com.

References

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About the Author

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