

Is Tofu (Soy) Good or Bad for You? Here's What Science Shows



Flickr: Andrea Nguyen, Grilled Crisp Tofu Pockets

Source: [Bembu](#)

“Stay away from soy, and soy-based products such as tofu. They cause many health problems and can even KILL YOU!”

Sound familiar? That’s because this type of alarmist message is widespread. All you need to do is type tofu + health in any search engine and you’ll be bombarded with articles touting the harm of tofu and the health dangers of soy. But is tofu really as bad for you as these articles make it seem? Read on to find out.

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You'll recognize the alarmist type of message I'm talking about in any of the following claims:

- Tofu is an unhealthy processed food.
- Soy-based products block the absorption of minerals and injures your insides.
- Soy-based products messes with your thyroid function and slows down your metabolism.
- Tofu will give you breast cancer.
- Soy-based products makes men less manly.
- Soy-based infant formula is dangerous to babies.

That's enough to scare anyone into never wanting to get close to a block of tofu again!

When a close friend, worried about giving her toddler soy-based products, shared yet another alarmist article of the sort, I figured it might be time to actually take a closer look at the available scientific data regarding tofu and share my findings with her, and, by the same token, you!

A couple of years back, the Agency for HealthCare Research And Quality produced a large (100-page) report in which they soundly reviewed the relevant human data on soy. I've included the link to [this report here](#), for those of you interested in taking a closer look at this unbiased, scientific review.

For those of you not interested in an extensive summary of the literature, let me cut to the chase and share with you this report's conclusion, based on the review of thousands of studies based on rigorous criteria and scientific validity:

There is no conclusive evidence of an effect (either negative or positive) of soy protein or isoflavone based on the evidence that exists today.

In other words, the negative effects of soy are largely overstated!

So what are all these studies and unscientific articles floating around the worldwide web basing their arguments on?

Well, for one, many cite no sources, so it's hard to tell... A good point to be kept in mind whenever reading a health post (alarmist or not), is to give more value to those who do cite scientific references.

But what about those who do include such citations, supporting pretty gnarly negative effects of consuming soy and soy-based products like tofu?

As for those who do include citations, supporting pretty gnarly negative effects of soy and soy-based products such as tofu, there's no denying they exist. Yet, an often overlooked fact is that the amount of soy used in many of these studies is much higher than what an average person would normally consume. I'm talking about doses equivalent to as much as one pound of tofu per day! Not many people I know consume that much tofu, consistently, every day...

What's more, many studies are performed on mice and rats, which, cute as they may be, are quite different from humans. This means that extrapolation of findings from animal studies to humans must be done with particular caution.

That being said, let's take a closer look at some of those alarmist claims!

Tofu Is High In Toxins, Injures Your Insides And Causes Chronic Deficiencies

Soybeans are an excellent source of iron, calcium, manganese and selenium as well as a good source of magnesium, copper and zinc. Yet, an often-heard anti-tofu argument is that the soybeans used to make tofu also contain a large quantity of

toxins and anti-nutrients which can cause a variety of gastric problems and nutrient deficiencies.

So, is this true? After some digging, here's what I found:

Soy does contain three main "anti-nutrients"; trypsin-inhibitors, phytates and lectins.

- Trypsin is an enzyme needed to properly digest protein which means that trypsin inhibitors in soy can reduce protein digestion in the stomach and small intestine.
- Phytates are naturally present in all grains, seeds, nuts and legumes and are compounds which tie up minerals such as calcium, zinc and iron, decreasing their absorption from the intestine.
- Finally, lectins are a protein also found in grains, seeds, nuts and legumes that that can cause adverse effects ranging from nausea to bloating if consumed uncooked or improperly cooked or in excess.

Eating raw soybeans involves getting a side of these three compounds. Soaking and cooking the soybeans tends to deactivate some of the trypsin inhibitors and eliminate a good amount of the phytates and lectin content.

[Sprouting soybean prior to producing tofu](#) can also decrease levels of trypsin inhibitors and phytates by up to 81% and 56% respectively, in addition to increasing protein content by up to 13%.

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Fermentation also does the trick, which is why you may want to reach for products such as miso, tempeh, natto or tamari (a naturally fermented soy sauce) more often. Natto may be especially healthy as it contains a significant amount of [vitamin K2](#), important for cardiovascular and bone health.

The Verdict: Soybeans do contain some “anti-nutrients,” but, in the grand scheme of things, they’re unlikely to pose a real threat to your nutritional status. If you’re worried, favor fermented soy-foods such as tempeh, natto or tamari or opt to make your own tofu from sprouted soybeans (check the “Make your own tofu” section below to find out how easy it is to do).

Tofu Is Not A Great Source Of Protein

Soy is a complete source of dietary proteins, meaning that, unlike [most plant proteins](#), it contains all the essential amino acids required by your body. On the other hand, an often-heard argument is that soy-based products (including tofu) are low in methionine, an essential amino-acid playing an important role in many cell functions, including wound healing, cartilage formation, brain function and energy metabolism.

Purporters on the anti-soy side of the spectrum often use this argument to imply that consumption of soy leaves you at risk of a deficiency in this amino acid, which can lead to “liver disease, brain disorders, osteoarthritis, fibromyalgia, chronic fatigue, and depression.”

What they often fail to mention is that, although in theory, this is possible, it is very unlikely for one main reason; you’d have to consume soy as your exclusive source of protein to even have a chance of developing such a deficiency. What’s more, a low-methionine diet may not be such a bad thing, as it was actually reported to [provide some benefits when it comes to longevity](#).

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The Verdict: As great of a source of non-animal protein as tofu can be, the key remains variety. Opting for a diet rich in a wide array of foods will ensure you get a variety of nutrients. That being said, I have yet to come across a report

of anyone suffering from a methionine deficiency caused by eating tofu.

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