

What Sauerkraut Can Do for Your Gut

Analysis by [Dr. Joseph Mercola](#)

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STORY AT-A-GLANCE

- › Fermentation transforms cabbage into sauerkraut, creating bioactive compounds that strengthen gut barrier function and resist inflammatory damage
- › Research shows fermented cabbage outperforms raw cabbage in maintaining intestinal integrity; longer fermentation periods (10 to 14 days) produce strong gut-protective effects
- › Store-bought sauerkraut is often pasteurized, which eliminates beneficial compounds, while homemade versions preserve live cultures and metabolites essential for gut health
- › Even small amounts of fermented foods deliver significant gut benefits; just a few forkfuls daily provide protective compounds
- › For maximum gut health benefits, combine sauerkraut with other fermented vegetables and prebiotic foods like green bananas that nourish beneficial bacteria

Sauerkraut has been a staple in traditional diets for centuries, prized not only for its tangy flavor and long shelf life but also for its digestive benefits. But modern science is now uncovering exactly why this humble fermented cabbage has earned a reputation as a gut-healing powerhouse.

Unlike raw cabbage, fermentation transforms the vegetable into a bioactive food, producing a rich blend of metabolites that interact directly with your intestinal lining. This matters more than you might think, especially if you're dealing with bloating,

fatigue, food sensitivities, or skin flare-ups. All of these are signs that your gut barrier — the thin wall that separates your bloodstream from the contents of your intestines — is under stress.

Fermented foods like sauerkraut aren't just about adding probiotics. They work by delivering specific compounds that help your gut lining resist inflammatory damage and rebuild itself. And when your gut barrier is strong, the rest of your body — your immune system, your metabolism, and even your mood — gets stronger too.

That's why it's worth taking a closer look at how sauerkraut affects your digestive health on a cellular level, what researchers have discovered about its unique compounds and how to easily make your own version at home to get the full benefit.

Fermented Cabbage Creates a Natural Shield for Your Gut

A study published in *Applied and Environmental Microbiology* investigated how fermented cabbage, like sauerkraut, affects intestinal health and barrier integrity.¹ Scientists designed this experiment to see if the compounds created during cabbage fermentation could prevent damage to the gut lining caused by inflammatory signals. Researchers used human gut cell models and compared the effects of raw cabbage, fermented cabbage, and individual nutrients found in sauerkraut.

- **Sauerkraut helped keep the gut lining strong** — The team tested how healthy gut cells responded to inflammation. Cells exposed to fermented cabbage maintained their structure and defense mechanisms, while cells treated with raw cabbage or saline alone showed significant breakdown under inflammatory attack.
- **Fermented cabbage outperformed raw cabbage and saline in protecting gut cells** — Cells treated with fermented cabbage maintained strong electrical resistance, meaning the barrier between cells stayed tight.

By contrast, cells exposed to raw cabbage lost this protection and became leaky, a situation that mirrors “**leaky gut**” in the body. Even when salt content was controlled, raw cabbage failed to provide any real defense, confirming that it’s not the salt or the cabbage alone – it’s the transformation that occurs during **fermentation** that matters.

- **Key healing compounds were only found after fermentation** – The study revealed that fermentation dramatically changed cabbage’s chemical makeup. Compounds like indole-3-lactate (ILA) and gamma-aminobutyric acid (**GABA**) were created during fermentation, but were absent or minimal in raw cabbage.

These metabolites are recognized for their gut-healing, anti-inflammatory, and antioxidant properties. Without fermentation, **cabbage** simply does not produce these important gut-supportive molecules.

Sauerkraut Is Protective Even When Inflammation Is High

Even after the intestinal cells were deliberately inflamed, fermented cabbage helped maintain the physical integrity of the cell barrier. Measurements showed that the permeability of the gut lining was much lower in the fermented cabbage group compared to the control group that received inflammatory signals alone. This means that sauerkraut’s bioactive compounds physically helped prevent the intestinal barrier from leaking harmful substances into the bloodstream.

- **The healing effect was stronger when all the metabolites were present together** – When researchers isolated individual compounds, they found only partial protection against gut barrier breakdown. However, when these compounds were combined – just as they naturally are in **fermented sauerkraut** – the protection improved dramatically.

This suggests that it’s the full cocktail of natural metabolites working together that creates the strongest defense, not just one isolated ingredient.

- **The longer the cabbage was fermented, the stronger its gut-protective properties became** – Researchers found that the longer fermentation went on, the richer the cabbage became in protective metabolites. This means that taking the time to properly ferment your sauerkraut – about 10 to 14 days – is not just a tradition; it's necessary if you want to maximize the gut-healing benefits. Shortcuts in fermentation could leave you with a less effective product.

Simple Ways to Strengthen Your Gut Barrier with Fermented Foods

If you want to protect your gut lining and lower your risk of inflammation, what you eat today could change everything for you tomorrow. Leaky gut is not just a buzzword – it's a real health threat that allows toxins and pathogens to seep into your bloodstream, causing everything from allergies to autoimmune disease. The exciting part is that you are not helpless against it.

Fermented foods, including homemade sauerkraut, offer a natural way to rebuild your gut wall, strengthen your immune defenses, and restore healthy digestion. If you're struggling with bloating, fatigue, skin issues, or immune problems, it's time to take a hard look at your gut health and what you're feeding it every day. These steps will help you make simple but powerful changes to support your body from the inside out.

1. **Make your own sauerkraut at home whenever possible** – Store-bought versions are often pasteurized, which destroys the beneficial compounds that your gut needs. I suggest you ferment organic cabbage yourself using the simple recipe below. A home fermentation of at least 10 to 14 days allows gut-supportive metabolites to fully develop. Your body will thank you for giving it the natural protection it deserves.

Classic Sauerkraut Recipe with Spices

Ingredients

- 1 teaspoon of whole cloves
- 1 1/2 pounds of red cabbage
- 1 green apple, cored but skin on
- 1 1/2 teaspoons of sea salt
- 1 teaspoon of ground allspice
- 1 packet of Starter Culture for vegetables
- 2 cinnamon sticks
- 1 orange, sliced into rounds
- 1 radish, thinly sliced

Procedure

1. You will need a sterilized preserving jar (1.5 liters or 1 quart; you will have some filling left over) with an airlock lid for this recipe. You will also need to sterilize the knife, spoon, chopping board, and glass or stainless steel bowl and jug you will be using. To do this, wash the jar and utensils thoroughly in very hot water or run them through a hot rinse cycle in the dishwasher.
2. Place the cloves in a small piece of muslin, tie into a bundle with kitchen string and set aside.
3. Remove the outer leaves of the cabbage. Choose one of the outer leaves, wash well and set aside.
4. Shred the cabbage and apple in a food processor with a shredding attachment, or use a mandolin or knife to chop by hand.
5. Transfer the cabbage and apple to a large glass or stainless steel bowl and sprinkle over the salt and allspice. Mix well, cover and set aside.

6. Dissolve the starter culture in water according to the packet instructions (the amount of water will depend on the brand you're using). Add to the cabbage along with the bag of cloves, cinnamon, orange, and radish and gently mix.
7. Fill the prepared jar with the cabbage mixture, pressing down well with a large spoon or potato masher to remove any air pockets. Leave 2 centimeters (0.78 inch) of room free at the top. The cabbage mixture should be completely submerged in the liquid, so add more water if necessary.
8. Fold up the reserved cabbage leaf and place it on top of the mixture, then add a small glass weight (a shot glass is ideal) to keep everything submerged. Close the lid, then wrap a tea towel around the side of the jar to block out the light.
9. Store the jar in a dark place with a temperature of 60 to 73 degrees F for 10 to 14 days. (You can place the jar in a cooler to maintain a more consistent temperature.)
10. The longer you leave the jar, the higher the level of good bacteria present and the tangier the flavor.
11. Chill before eating. Once opened, the sauerkraut will last for up to two months in the fridge submerged in the liquid. If unopened, it will keep for up to nine months in the fridge.

2. Eat fermented foods regularly – Ideally, include fermented foods in your regular meal rotation. However, you don't need to eat huge amounts to get the benefits. Even a few forkfuls a day help supply your gut with the bioactive molecules that strengthen your intestinal lining. If you're new to fermented foods, start small to allow your gut microbiome to adjust without discomfort.

- 3. Support fermentation by choosing the right storage and environment** – If you're fermenting at home, always use a glass jar and keep it in a cool, dark place. I recommend keeping temperatures around 60°F to 73°F for the best flavor and maximum production of gut-protective compounds. If you live in a warmer climate, a basement or a cooler corner of your home works well.
- 4. Add diversity by rotating your fermented foods** – While cabbage is powerful, your gut thrives on diversity. I encourage you to add other fermented vegetables like carrots, beets, or cucumbers. Each vegetable offers a slightly different profile of beneficial bacteria and bioactive compounds that your gut lining uses for healing. You can also try fermented dairy, like kefir, or natto, a fermented soybean dish.
- 5. Feed the good bacteria with the right prebiotics** – Even the best sauerkraut needs a healthy gut environment to work. If you're eating fermented foods but still loading up on processed foods loaded with inflammatory vegetable oils, you're fighting an uphill battle. Focus your diet on whole foods and include foods like green bananas and Jerusalem artichokes to feed the beneficial bacteria that fermented foods help introduce.

By following these steps, you put yourself in control of your gut health. Every small choice you make today lays a stronger foundation for your digestion, immunity, and energy tomorrow.

FAQs About Sauerkraut

Q: What makes homemade sauerkraut better for gut health than store-bought versions?

A: Homemade sauerkraut typically contains a higher amount of live, beneficial metabolites, which help protect and rebuild your intestinal lining. Store-bought sauerkraut is often pasteurized, which destroys many of these helpful compounds.

Q: How much sauerkraut should you eat daily to support your gut barrier?

A: Eating even one to two forkfuls of fermented cabbage with meals helps to deliver the gut-strengthening benefits. Starting with small amounts allows your microbiome to adjust and maximizes comfort during the transition.

Q: How does fermented cabbage protect my gut lining?

A: Research published in *Applied and Environmental Microbiology* showed that fermented cabbage contains a complex blend of bioactive metabolites that help seal your gut barrier, even when it's challenged by inflammatory triggers. This protection goes beyond what any single compound could achieve on its own.

Q: What are the best conditions for fermenting your own cabbage at home?

A: Use a sterilized glass jar and store it in a cool, dark place at temperatures around 60 to 73 degrees F. A fermentation time of 10 to 14 days produces high levels of gut-protective compounds.

Q: What else enhances the benefits of eating sauerkraut?

A: Adding a variety of other fermented vegetables and eating whole foods like green bananas helps feed the beneficial bacteria introduced by the sauerkraut, amplifying the overall healing effect on your gut lining.

Sources and References

- ¹ [Applied and Environmental Microbiology April 7, 2025](#)