

## Kombucha Tea

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### **Bottom Line at the Top: I wouldn't drink it.**

I'm told that interest in kombucha tea, popular in China and Japan for many years, has surged in the U.S. recently, particularly in the yoga world. Claims that it cures arthritis and insomnia, stimulates hair growth and immune function, and improves digestion and liver function must appeal to those who don't trust a prudent diet and exercise to provide for health.

People make kombucha from sweetened black, green or white tea by adding bacteria (*Acetobacter*) and yeast (one or more of *Candida*, *Torula*, *Saccharomyces* or other species). Some call the resulting symbiotic culture of bacteria and yeast a 'kombucha mushroom' or, in China, a 'Manchurian mushroom,' but it's not a mushroom in the strict sense. It just looks like a gloppy mushroom when the bacteria and fungus form a gelatinous mass surrounded by a thin membrane floating atop the tea. The mass sprouts 'babies', which people give to their friends to promulgate the fun.

Is there any good reason to knowingly consume a tea made from bacteria and yeasts? Some non-human studies show preliminary promise. For example, glucose and cholesterol levels improve in diabetic rats fed kombucha. Adding the tea directly to test tube cell cultures protects against bacterial growth. But so does lye, and we don't drink that.

No human studies have verified any health benefit. The American Cancer Society specifically refutes any claim that kombucha works to treat cancer or any other disease.

Kombucha can cause serious side effects and has been linked to deaths related to kidney failure and extremely acidic blood. During brewing, yeast

ferments sugar to alcohol, which is converted to acids by *Acetobacter*. The tea's pH decreases to 1.8 in 24 hours, by generating mostly acetic acids. The conversion is rarely complete, however, and kombucha may contain up to 1.5% alcohol. The longer a tea is cultured, the more acidic and vinegary it becomes. If brewed in lead crystal, the tea's acid leaches lead from the container into the tea, and has caused symptomatic lead toxicity.

Two women who drank tea from the same kombucha culture were hospitalized with severe acidosis and heart and lung failure. One died. Their kombucha culture contained *Saccharomyces cerevisiae* and *Candida valida*, not normally considered pathogenic. A 22 year-old male was comatose, with acute kidney failure, severe lactic acidosis and high fever, within 15 hours of consuming the tea.

Some people get stomach upset or allergic reactions. After all, kombucha is made from a mold and a lot of people are allergic to molds.

Acidity should prevent most pathogenic growth, but cultures aren't always acidic enough to prevent contamination. Brewers have reported molds, including *Aspergillus*, which can cause an extremely dangerous infection. There are at least two commercial producers, and analysis of their cultures has proved they are safe, but many people get their starter cultures from friends, and these cultures can grow contaminants.

Some claim that polyphenols, B vitamins or [glucuronic acid](#) are responsible for kombucha's purported health benefits. There is no guarantee that a culture produces much glucuronic acid, it is unmodified during digestion, or a body needs a dietary source, since the liver makes it. If your liver is incapable of making glucuronic acid, eat apples,

Brussels sprouts, broccoli, cabbage, lettuce, oranges and Jerusalem artichokes. Non-kombucha tea has healthful polyphenols. A slew of whole grains deliver B vitamins. All are safer than kombucha.



Mold contamination on the culture surface.  
(From Wikipedia)