

DO YOU NEED TO AVOID SOY SAUCE IF YOU'RE GLUTEN SENSITIVE?

Celiac disease is an autoimmune disease occurring in genetically predisposed people where the ingestion of gluten damages the small intestine. It affects only about one in 100 individuals.

However, 35% of the US population reacts to gluten and 81% has gluten-sensitive genes, which if turned on, can cause gluten sensitivity. Some non-celiac individuals have minor reactions and may not know they are sensitive.

In Europe, foods labeled gluten-free must contain less than 20 PPM gluten. Naturally fermented soy sauce (shoyu) has less than 5 PPM. At 20 PPM, there would only be 10 mg of actual gluten in 16 ounces of shoyu. As a comparison, the gluten content of a slice of bread is 45,000 mg.

No scientific study has ever seen a celiac patient react to less than 10 mg. of gluten. Many studies saw no reaction even as high as 30 PPM. At 5 PPM one would have to drink 4 pounds of soy sauce to get 10 mg of gluten. Soy sauce might be lethal at those doses for other reasons. ;)

A study by a [European lab](#) of the popular soy sauce brands Kikkoman and Lima found both to contain less than 5 PPM gluten. In addition, fermentation will break down complex proteins like gluten into amino acids and polypeptides. Those with allergic sensitivities to gluten may not be sensitive to it when it's broken down into its component parts.

This would indicate that even celiacs may be able to consume shoyu. The ability to eat foods with soy sauce would open up Asian food options previously thought to be off limits--a small ray of hope to those practicing constant restraint! There is great individual variation, however, and the only way to know for sure is to experiment. Be careful!

Here's an [article](#) in the online forum SOYA.BE that provides further information and has a number of comments by readers, pro and con.

Dr. [Will Mitchell](#) contributed to this article. He's an acupuncturist, nutritionist, and celiac who now eats shoyu.