Wasabi Does More Than Simply Add Heat to Sushi

By Joe Schwarcz — April 8, 2019

Wasabi has antimicrobial properties which may have safeguarded Japanese sushi eaters over the years. Specifically, “6-methylsulfinylhexyl isothiocyanate” has been identified in wasabi as an antimicrobial agent effective against bacteria such as E. coli and Staphylococcus aureus. This useful property has led to the ingenious development of using wasabi extract as a preservative in lunch bags in Japan.

On the western front, researchers are looking at isothiocyanate in particular as possibly targeting pathogenic Salmonella. Wasabi’s antimicrobial effect may yet be directed against another scourge, namely, tooth decay. According Dr. Hideki Masuda, isothiocyanate is effective in inhibiting Streptococcus mutans cell growth by interfering with the ability of bacterial cell to adhere to teeth. Other health benefits may include wasabi’s anti-cancer properties. Researchers have found that many human stomach cancer cells changed morphologically followed by cell death in a medium of wasabi extract. Besides the lachrymatory sensation, and clearing of the sinuses, there are no known side-effects attributed to wasabi consumption although some individuals may experience an allergic reaction. However, since “real” wasabi is difficult to cultivate, much of the green paste on the market today is horseradish that is dyed green. As a result, the allergic reaction is often due to either the dye or the horseradish. As a final note, although wasabi is a member of the mustard family, its pungent taste has nothing to do with mustard gas, a chemical warfare agent. Although further research needs to be conducted, wasabi’s medicinal potential seems quite promising. Maybe in the future, instead of fluoride-enriched toothpaste as a means of cavity control, we may be urged to eat a plateful of sashimi with plenty of wasabi! And believe it or not wasabi may yet
make another appearance, as a wood preservative! The commonly used preservatives for lumber are quite toxic, so a wasabi extract certainly has appeal. Now that would be an interesting example of “green chemistry.”

The original McGill University OSS post can be found here [1].