

# Common food additive could be combined with tofu to control appetite and calorie consumption in Asian diets

September 9 2016

---

The food additive polydextrose could be put into tofu to reduce hunger pangs and stimulate weight loss in people of Chinese ethnicity, according to new research from A\*STAR.

Polydextrose—a large molecule comprised of approximately 12 smaller glucose molecules—has a distinct arrangement that is very difficult for the human digestive system to break apart. This has led to its widespread use in [food](#) across Europe and North America to promote a feeling of fullness without contributing significantly to the calorie count. There have, however, been few studies on the use of polydextrose in people of Asian origin. "This is significant, because the metabolic responses of Asians to various dietary factors are markedly different to those of Europeans," says Christiani Henry of the A\*STAR Singapore Institute for Clinical Sciences.

Henry's team, along with co-workers from other Singaporean institutions, studied the response of people of Chinese ethnicity to eating soyabean curd supplemented with polydextrose. Twenty-seven healthy men ate one of four tofu mixtures on different days. Their response to each test mixture was monitored throughout the course of the study. The four options consisted of low-protein or high-protein liquid soyabean curd, taken with or without added polydextrose. These mixtures were eaten alongside other controlled food provided during each test day, with the total amount of food consumed to be decided by each participant.

The most significant dietary finding was that the subjects ate fewer calories when consuming the low-protein mixture with polydextrose than they did with the low-protein bean curd on its own. The researchers also used blood sampling to investigate the role played by two gut hormones known to be involved in controlling hunger and satiety and they used ultrasound scans to estimate the rate at which the subjects' stomachs emptied after the test meals. Taken together, the results suggest that polydextrose may be a useful additive for soyabean curd products aimed to help weight control in the Asian market, given the popularity of tofu in Asian food.

"We are also exploring whether polydextrose can be used in solid food to elicit a similar response to that seen in soybean curd," says Henry. The researchers have established contact with a local business, with a view to translating their research findings into a manufactured product. The appearance of weight control tofu on supermarket shelves may be just a matter of time.

**More information:** Yean Yean Soong et al. Combination of soya protein and polydextrose reduces energy intake and glycaemic response via modulation of gastric emptying rate, ghrelin and glucagon-like peptide-1 in Chinese, *British Journal of Nutrition* (2016). [DOI: 10.1017/S0007114516001689](https://doi.org/10.1017/S0007114516001689)

Provided by Agency for Science, Technology and Research (A\*STAR), Singapore

Citation: Common food additive could be combined with tofu to control appetite and calorie consumption in Asian diets (2016, September 9) retrieved 8 May 2024 from <https://medicalxpress.com/news/2016-09-common-food-additive-combined-tofu.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.