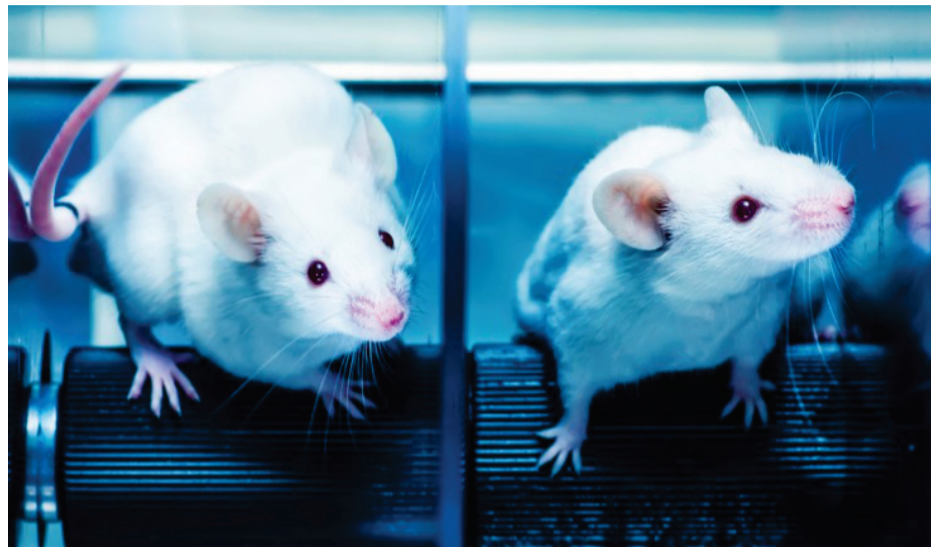


Mouse Study backs weight loss potential of curcumin, piperine combo



By Adi Menayang. 05-Apr-2018

Mice given curcumin and piperine while on a calorie restricted diet lost more fat than control group mice and exhibited significantly lower plasma inflammatory markers associated with obesity, according to researchers from Tufts University in Boston and Tohoku University in Sendai, Japan.

The bioactives studied are found in plants—curcumin is a major polyphenol in turmeric, while piperine is a bioactive alkaloid in pepper.

There is mounting science backing the anti-inflammatory properties of the ingredients, both individually and in combination. *“Piperine [is] a plausible enhancer of curcumin’s bioavailability and efficacy,”* the researchers argued in their report, published in *Nutrition and Metabolism* in February this year.

For example, in 2014, Iranian researchers linked the combination to improvements in knee osteoarthritis symptoms. More recently in 2017, a study backed by ingredient company Sabinsa provided evidence of 'curcumin-piperines heart health benefits for diabetics.

Thus in this present study, funded in part by the USDA/ARS and the Japan Society for the Promotion of Science, the researchers wanted to see whether the beneficial effect of a calorie-restricted diet could be further increased by concurrent supplementation with dietary curcumin, with or without piperine.

Study design

Mice were divided into five groups, with nine to 10 mice in each. For 23 weeks during the first phase of the study, all mice were fed a Western-style high-fat diet to induce obesity

During the second phase, the researchers differentiated the diet and supplementation of each group. Two groups were not given any of the bioactives, with one group maintaining the high-fat diet, and the other consuming a calorie-restricted diet of 10% less food than the high-fat diet.

The rest of the three mice groups all changed to a calorie-restricted diet of 10% less food and also received supplementation: One group received only curcumin, the next received only piperine, and the last received both curcumin and piperine.

Mice were weighed twice a week, and starting from week 23, their body fat was measured once every two weeks by a small animal magnetic resonance imaging (MRI) system.

“We measured the changes in body weight, area under the curve (AUC) of percent total body fat, telomere length and several markers of inflammation,” the researchers wrote.

Results: ‘Curcumin and piperine may accelerate caloric restriction-induced loss of total body fat’

Compared to groups fed high-fat diets ad libitum, the curcumin plus piperine group experienced significant reduced area under the curve of percent adiposity, though the researchers said supplementation alone was not effective at increasing further body fat loss in the study mice.

In terms of plasma inflammatory cytokines, the group supplemented with the combination had significantly lower levels of IL-1beta and KC/GRO, markers associated with obesity.

“These results indicate that piperine may contribute to curcumin reduction of inflammatory processes by decreasing the levels of IL-1β and KC/GRO through suppression of adipose tissue inflammation,” they reported.

“Combination of curcumin and piperine appear to have the potential to enhance caloric restriction effects for the prevention of metabolic syndrome, both of which are associated with good health status,” they concluded.

‘[Combination] works well to reduce total body fat’

Commenting independently on the study, R&D president of ingredient manufacturer Sabinsa, Dr. Nagabhushanam Kalyanam, said that the results show how the combination *“works well to reduce total body fat, reduces cellular aging as indicated by preserving telomere length, and enhance the caloric-restriction effects for the prevention of metabolic syndrome.”*

His company has invested in research of both curcumin (which it markets as Curcumin C3 Complex) and piperine (marketed as BioPerine), and has promoted the combination for more than two decades.