

Low-protein diet shows promise

Buck Institute scientist finds limiting protein extends life span of fruit flies; mice study next

By **GUY KOVNER**

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A low-protein diet boosted the life span of fruit flies in a Novato laboratory, suggesting that humans may also live longer by restricting protein consumption, a Buck Institute for Age Research scientist said.

Pankaj Kapahi, a molecular biologist who conducted the study, said his findings are a strike against high-protein weight-loss plans, such as the

popular Atkins diet that claims to turn the body into "a fat-burning machine."

Diets like Atkins' are effective in short-term weight loss, Kapahi said, but they also alter metabolism in ways that contribute to cancer, and heart and kidney disease.

"It's a bad way to lose weight," said Kapahi, a faculty member at the Buck Institute, an independent research facility that opened 10 years ago in a hillside campus west of Highway 101 in Novato.

His study helps explain how a low-protein diet enables flies to live longer by boosting the function of their mitochondria, the cellular power-

houses that typically decline with age, Kapahi said.

"In flies, we see that the long-lived diet is a low-protein diet and what we have found here is a mechanism for how that may be working," Kapahi said.

Brian Kennedy, a biochemist at the University of Washington, said Kapahi's work helped reveal the details of how dietary restriction extends life span.

Whether it applies to humans remains to be seen, and testing in mice — which are "much closer to people" than flies are — is the logical next step, one that his lab is pursuing, Kennedy said.

The ultimate goal for life span researchers, he said, is to develop drugs that will have the same effect as a stringent diet. Cutting calories is "hard to do," Kennedy said.

Kapahi, formerly an avid meat eater, said that his work with high-protein-fed fruit flies had helped convert him to a vegetarian — with an occasional meal of fish.

An ideal diet, Kapahi said, would include "lots of greens and vegetables," with complex carbohydrates such as whole grains.

Kapahi said his research revealed a "dose-dependent decrease in life span as you increase the protein" in

TURN TO **DIET**, PAGE B5

DIET: Study results could add to Atkins program criticism

CONTINUED FROM PAGE B3

the flies' diet.

Kennedy stopped short of interpreting Kapahi's study as grounds for discrediting the Atkins diet, but other sources have cited problems with it.

WebMD, an online guide to health care, accepts the Atkins premise that reduced carbohydrate consumption produces a state called ketosis, in which the body begins burning its own fat for fuel.

But ketosis is also associated with headaches, irritability, nausea, kidney trouble and

heart palpitations.

High-protein diets may also cause people to cut down on fruits and vegetables, missing out on their disease-fighting nutrients, WebMD said.

The American Heart Association, citing a lack of long-term studies of high-protein diets, does not recommend them for weight loss.

The Atkins organization could be reached for comment Friday.

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