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## REPORT

The unique benefits of  
Perilla Oil

Continued from Getting to The Heart of the Matter

The scientific literature supports the use of perilla oil as part of a diet to improve essential fatty-acid metabolism throughout the body. The following summaries represent some of these studies:

### Cardiovascular Protection

Platelet-activating factor is a major cause of arterial blood clots that cause heart attacks and strokes, and are the leading cause of death in the West. Perilla oil was shown to decrease PAF by 50 percent in rats, compared with the administration of safflower oil. *Journal of Lipid Mediators and Cell Signaling* (Netherlands), 1997, 17/3 (207-220).

The effects of a perilla oil on nutritional status and the production of thromboxane A2, a significant cause of abnormal blood-clot formation, were compared with those of soybean oil in diabetic rats. After only seven days, perilla oil improved body-weight gain and nitrogen balance and reduced inflammatory cytokine formation and thromboxane A2 production by platelets. Perilla oil improved the overall nutritional state of these diabetic rats. *Nutrition* (USA), 1995, 11/5 (450-455).

### Neurological Benefits

Rats fed either a safflower oil or a perilla oil diet through two generations showed significant differences in the brightness-discrimination learning task. The inferior learning performance in the safflower oil group was caused mainly by the inferior ability to rectify the incorrect responses through the learning sessions. In the safflower oil group after the learning task, the average densities of synaptic vesicles in the terminals of the hippocampus region were decreased by nearly 30 percent, as compared with those in the perilla oil group. These results suggest that dietary oil-induced structural changes in synapses in the hippocampus of rats and that these changes are related to the differential in learning performance. *Journal of Neurochemistry* (USA), 1997, 68/3 (1261-1268).

Rats through two generations were fed diets supplemented with safflower seed oil or with perilla seed oil, or a conventional laboratory chow. Brightness-discrimination learning ability was determined to be the highest in the perilla oil-fed group, followed by the normal group, and then by the safflower group, extending previous observations in a different strain of rat that the fatty acid found in perilla oil is a factor in maintaining high learning ability. *J. Lipid Research* (USA), 1988, 29/8 (1013-1021).

### Cancer Protection

The effects of a diet supplemented with perilla oil, soybean and safflower oil were investigated in female rats. The numbers of mammary tumors per rat were significantly lower in rats given a perilla-oil diet than those given the soybean-oil diet. Further, colon tumor incidence was significantly lower in animals receiving the perilla-oil supplement than in those given safflower-oil diet, and the numbers of colon tumors per rat tended to be lowest in rats administered perilla oil. Also the incidence of kidney cancers in rats receiving a perilla oil diet was significantly lower than that for the soybean oil diet group. *Carcinogenesis* (United Kingdom), 1990, 11/5 (731-735).

The inhibitory effect of dietary perilla oil against colon carcinogenesis was investigated in rats. The incidence of colon cancer was significantly lower in perilla oil fed rats than in other dietary groups. When examined at week 10, a marker of tumor promotion was significantly lower in perilla oil-fed group than in other groups. The results suggest that the anti-tumor-promoting effect of perilla oil was a result of a decreased sensitivity of colonic mucosa to tumor promoters. Japanese *J. Cancer Res.* (Japan), 1991, 82/10 (1089-1096).

### Fighting Obesity

Mice fed a high-fat diet develop elevated blood glucose and obesity. A study investigated the effects of seven different dietary oils on

glucose metabolism: palm oil, lard oil, rapeseed oil, soybean oil, safflower oil, perilla oil, and tuna fish oil. All the mice received a high-fat diet (60 percent of total calories). After 19 weeks of feeding, body weight and serum glucose levels were significantly greater in the soybean, palm, lard, and rapeseed groups, compared with the perilla and fish oil groups. *Metabolism: Clinical and Experimental (USA)*, 1996, 45/12 (1539-1546).

### Anti-Aging Effects

The fatty acids found in perilla oil might prevent the chronic diseases of aging. The general behavioral patterns of rats or mice fed safflower oil were impaired, compared with the perilla oil group. Also, learning ability and retinal function were higher in the perilla group compared with the group fed soybean or safflower oil. Perilla oil has been found to be beneficial for the suppression of carcinogenesis, allergic hyperreactivity, thrombotic tendency, apoplexy, hypertension and aging in animals, as compared with soybean oil and safflower oil. Animal experiments and studies on diseases in humans led to a recommendation that the intake of omega-6 fatty acids should be decreased, and that essential fatty acids found in perilla oil (omega-3) should be increased for the prevention of chronic diseases prevailing in the industrialized countries. *Proc. Soc. Exp. Biol. Med.(USA)*, 1992, 200/2 (174-176).

### Anti-Inflammatory

A wide range of inflammatory bowel diseases, such as colitis and Crohn's disease, can be suppressed by essential fatty-acid supplementation. Fish oil has been specifically shown to be beneficial in treating differing forms of colitis, but many people cannot take high doses of fish oil on a consistent basis. Perilla oil was specifically shown to protect against the mucosal damage in the linings of the intestines that is normally induced by the production of leukotrienes, a compound whose presence is indicative of the level of inflammation and allergic reactions. *Pediatric Research (USA)*, 1997, 42/6 (835-839).

### Fighting Allergies

Mice were fed for two months diets containing safflower seed oil or perilla seed oil. The results showed that higher amounts of perilla oil suppressed the effects of lipid-derived allergic mediators. This supports the hypothesis that increasing the fatty acids found in perilla oil would be effective in reducing the severity of immediate-type allergic hypersensitivity. *J. Nutr. (USA)*, 1994, 124/9 (1566-1573).

### Using Perilla Oil

Those using fish or flax oil may consider switching to perilla oil. The daily intake of six 1,000-mg capsules of stabilized perilla oil capsules provides 3.3 grams of the essential omega-3 oil, alpha-linolenic acid.

Unlike fish oil, perilla oil does not cause digestive upset, even when large amounts are consumed. The low cost of perilla oil compared with fish oil makes this new source of essential fatty acids a price bargain.

It is important to remember that dietary fiber can absorb both good and bad fatty acids. Therefore, always take your essential fatty acid oils at a different time than fiber. And remember that fatty acids require co-dependent nutrients such as magnesium, zinc, vitamin B6, vitamin B3 and vitamin C for proper metabolic regulation in the body.

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