



Soy Protein for Health

The Solae
Company™

Heart Health Facts

More than 61.8 million Americans suffer from some form of cardiovascular disease, which today ranks as the No. 1 killer of adult Americans. Numerous studies strongly support that eating a diet rich in soy protein may play a role in helping to prevent heart disease.

Source: American Heart Association. *Heart Disease and Stroke Statistics – 2003 Update*. Dallas, Tex: American Heart Association; 2002.

The Food and Drug Administration Health Claim

In 1999, The Food and Drug Administration (FDA) approved an unqualified health claim in support of soy's heart health benefits, which came in response to a body of scientific evidence compiled, reviewed and presented by The Solae Company. The FDA claim states, "25 grams of soy protein per day, as part of a diet low in saturated fat and cholesterol, may reduce the risk of coronary heart disease." The claim is based on scientific evidence from more than 50 independent studies, many of which included soy protein from The Solae Company.

Why is the FDA's Claim Significant?

Since 1990, *the FDA has authorized only 14 unqualified health claims*. Ten of these claims were part of original legislation permitting the use of the claim language. However, the claim involving soy protein was among four claims that resulted from petitions.

A petition requires a high degree of scientific credibility or "significant scientific agreement" for the FDA to permit the use of a health claim. Therefore, the relationship between the consumption of soy protein and the reduction in the risk of heart disease met this high scientific standard. And by acknowledging that consuming soy protein may help lower bad cholesterol and protect against coronary heart disease, the FDA claim emphasizes the value of incorporating soy protein into a balanced, healthful diet.

Soy Protein and Cholesterol

High cholesterol is a major health issue in the United States and throughout the world as it's a major risk factor for heart disease. According to the American Heart Association (AHA), more than 100 million Americans have cholesterol levels greater than 200 mg/dL, which is considered high. Of those people, 41 million have blood cholesterol levels greater than 240 mg/dL.

The Role of Soy

Results from a meta-analysis of 38 clinical studies showed that soy protein consumption may help lower total blood cholesterol and LDL-cholesterol as compared to animal protein consumption, thus helping reduce the risk of coronary heart disease. In addition, soy protein may have an impact in raising HDL cholesterol (good cholesterol).

In addition, the AHA states the consumption of soy protein containing isoflavones, along with other heart-healthy diet modifications, is particularly recommended for those high-risk populations with elevated total and LDL cholesterol.

Source: Anderson, JW, BM Johnstone, ME Cook-Newell. *Meta-analysis of the effects of soy protein intake on serum lipids.* *New England Journal of Medicine* 333:276-282, 1995.

AHA Science Advisory: *Soy Protein and Cardiovascular Disease*, #71-4979;0196 *Circulation*. 2000;102:2555-2559

Additional Heart Health Benefits

Antioxidant Effect of Soy Protein

Oxidized LDL cholesterol is damaging to your arteries. However, preliminary laboratory research suggests that the isoflavone genistein, a main component of soy protein, may inhibit the oxidation of LDL-cholesterol leading to improved health.

Source: Kapiotis S, Hermann M, Held I, et al. *Genistein, the dietary-derived angiogenesis inhibitor, prevents LDL oxidation and protects endothelial cells from damage by atherogenic LDL.* *Arterioscler Thromb Vasc Biol* 1997;17:2868-2874.

Blood Coagulation

Blood clots are often responsible for completely blocking an artery already narrowed by atherosclerosis. Laboratory studies suggest that soy isoflavones, especially genistein, may have a favorable effect on blood clot formation.

Sources: Kritchevsky D. *Dietary protein and experimental atherosclerosis.* *Ann NY Acad Sci* 1993;676:180-187.

Wilcox JN, Blumenthal BF. *Thrombotic mechanisms in atherosclerosis: potential impact of soy proteins.* *Journal of Nutrition* 1995;125(suppl): 631S-638S.

Blood Pressure

Uncontrolled high blood pressure can lead to stroke, heart attack, heart failure or kidney failure. Recent evidence, however, suggests that consumption of soy protein may be linked to lower blood pressure. Researchers continue to examine soy protein's affect on blood pressure.

Source: Jenkins, D., Kendall, C., Jackson, C., Connelly, P., Parker, T., Faulkner, D., Vidgen, E., Cunnane, S., Leiter, L., & Josse, R., *Effects of high-and low-isoflavone soyfoods on blood lipids, oxidized LDL, homocystein, and blood pressure in hyperlipidemic men and women.* *Am J Clin Nutr* 2002;76:365-72.