The science behind the US FDA soy protein coronary heart disease health claim

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For more than 30 years, there have been reports of cholesterol-lowering in humans when animal protein is replaced by soy protein in the diet. In 1995, a meta-analysis of clinical studies summarized findings and showed that soy protein produced on average a 9.3% reduction in total cholesterol, a 12.9% reduction in LDL cholesterol, a 10.5% reduction in total triglycerides, while HDL cholesterol remained unchanged (1). In 1999, the United States Food and Drug Administration approved a Health Claim for the Prevention of Coronary Heart Disease upon the consumption of 25 g soy protein (2). Recent work has attempted to identify likely components of soy responsible for these changes. Both animal and human investigation have shown that the protein and the bioactives are important constituents. Soy protein consumption also has been found to decrease atherosclerotic plaque development and isoflavones improve endothelial function, both of which are associated with protection from cardiac events. This talk will provide an overview of the history behind soy protein and cholesterol-lowering as well as furnish evidence on the influence of various bioactive components.

References

1. Anderson JW, Johnstone BM, Cook-Newall ME. Meta-analysis of the effects of soy protein intake on serum lipids. N Engl J Med 1995; 333: 276–282.
2. Food and Drug Administration. Food labeling, health claims, soy protein, and coronary heart disease. Fed Reg. 1999; 57: 699–733.