

## Is it safe for infants to consume soy-based formulas?

Yes. The Canadian Paediatric Society, Dietitians of Canada and Health Canada all recommend soy-based formula for infants who cannot consume dairy due to health, cultural or religious reasons. Soy formula provides an alternative to dairy-based formulas for infants with allergies, galactosemia, lactose intolerances or vegans.

A recent publication from the Nutrition Committee of the Canadian Paediatric Society noted that, based on available human data, no harm has been proven to healthy infants who were fed currently available soy-based infant formulas as their sole source of nutrition.

Additionally, there is no evidence of negative effects on adults who were fed soy-based foods and formulas as infants.

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## Do soy foods impair cognitive function?

No. Studies are finding that soy isoflavones may enhance short-term memory in adults. The role of soy isoflavones in cognitive function is an active area of research and there is great interest in the potential benefit that soy isoflavones can have.

*Soy isoflavones and cognitive function. Lee YB, Lee HJ, Sohn HS. J Nutr Biochem. 2005;16(11):641-649*

## Does phytic acid, which is found in soy, cause problems with mineral absorption?

No. When an individual's diet has adequate zinc, iron and calcium, phytates from soy or other vegetables and grains do not present a problem with mineral absorption. Phytic acid, a component of all plants, has benefits and detractions. It can affect mineral bioavailability making them less available but it also can act as an antioxidant, which can reduce free radical formation and oxidative stress.

*Zhou Y, Alekel DL, Dixon PM, Messina M, Reddy MB. The effect of soy food intake on mineral status in premenopausal women. Journal of Women's Health (Larchmt). 2011;20(5):771-780.*

# Soy Questions & Answers



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## The Truth About



Soy foods can play a part in any healthy, well-balanced diet. They nourish the body with high-quality protein, are low in saturated fat, cholesterol-free and full of nutrients.

Studies confirm that soy foods boost health at all ages. Whether you are interested in being more heart healthy, want to lose weight, or seek healthy snacks, soy foods can fit into every lifestyle.

### Is soy a good source of protein?

Yes. Soy protein is the only complete plant protein that is equal to animal protein. Soy foods contain all the essential amino acids we need for human growth and health and they are easy for the body to digest.

The World Health Organization has studied the quality of proteins and found that soy ranked at the top of its protein digestibility corrected amino acid score (PDCAAS). Both soy and egg whites scored 100, compared to milk and meat proteins at 92 and other legumes, which scored under 70. PDCAAS measures the amino acid pattern of proteins and digestibility factors. Its high PDCAAS ranking makes soy protein an ideal alternative to meat.

### What makes soy heart-healthy?

Soy foods are cholesterol-free and low in saturated fat. They also have many nutritional benefits that can contribute to a heart healthy diet. According to the American Heart Association, "soy products such as tofu, soy butter, soy nuts, or some soy burgers should be beneficial to cardiovascular and overall health because of their high content of polyunsaturated fats, dietary fibre, vitamins, minerals and low content of saturated fat and no cholesterol."

### What about food allergies and sensitivities?

Soy protein is one of eight major food allergens, along with proteins from milk, eggs, peanuts, tree nuts, fish, shellfish and wheat. However, only an estimated 0.1% of the population has food allergies or sensitivities to soy protein. If this is the case then soy protein should be avoided.

Soy can be an excellent alternative for people who are allergic or sensitive to dairy or gluten, which are more common food allergies.

*Munro IC, Harwood M, Hlywka JJ, Stephen AM, Doull J, Flamm WG, Adlercreutz H. Soy isoflavones: a safety review. Nutrition Reviews. 2003;61(1):1-33.*

### What are isoflavones?

Isoflavones – plant hormones – can mimic human estrogen in various parts of the human body, which can result in health benefits, including reducing the risk of coronary heart disease, osteoporosis and relieving menopausal symptoms.

Isoflavones are found in soybeans, chickpeas and other legumes. However, soybeans are unique because they have the highest concentration of these naturally-occurring phytochemicals.

Isoflavones are often described as phytoestrogens or plant hormones. They resemble human estrogen in chemical structure but are weaker in biological potency. Isoflavones have approximately 1/1000th the biological activity of endogenous or synthetic estrogens.

*Setchell KD, Cassidy A. Dietary isoflavones: biological effects and relevance to human health. Journal of Nutrition. 1999;129(3):758S-767S.*



### Does soy consumption help lower the risk of heart disease in adults with type 2 diabetes?

Yes. A recent University of Guelph study shows that consuming soy protein can reduce risk of Cardiovascular Disease (CVD) in adults with type 2 diabetes.

According to the research, when compared to milk protein consumption, soy protein significantly improved reduced serum LDL-cholesterol and lipid ratios. Therefore, the study provided evidence that consuming soy protein is a dietary approach that can help reduce heart disease risk for adults living with type 2 diabetes.

*Pipe EA, Gobert CP, Capes SE, Darlington GA, Lampe JW, Duncan AM. Soy protein reduces serum LDL cholesterol, LDL cholesterol/HDL cholesterol and apolipoprotein B/apolipoprotein A-I in adults with type 2 diabetes. J Nutr. 2009;139:1700-6.*

### Does soy consumption cause breast cancer?

No. Human studies have demonstrated no increase in breast cancer risk from soy consumption. This includes recent studies of breast cancer survivors, which found that soy consumption is related to a decreased risk of breast cancer recurrence and mortality.

Studies are showing that a long-term dietary pattern that predominantly includes vegetables, fruits and soy foods helps to reduce breast cancer risk by about 30 per cent in postmenopausal women.

*Messina M, Wu AH. Perspectives on the soy-breast cancer relation. American Journal of Clinical Nutrition. 2009;89(5):1673S-1679S.*

### Does soy alter male fertility?

No. A recent study at the University of Guelph concluded that soy protein consumption had no negative effects on male fertility in healthy young men.

The study investigated the effects of consuming soy protein on various health outcomes in healthy young men. The results showed that soy protein consumption, regardless of isoflavone content, had no significant effects on sperm concentration, count, motility or morphology.

*Beaton LK, Dillingham BL, McVeigh BL, Lampe JW, Duncan AM. Soy protein isolates of varying isoflavone content do not adversely affect semen quality in healthy young men. Fertil Steril. 2010;94:1717-22.*