Comprehensive evaluation of the role of soy and isoflavone supplementation in humans and animals over the past two decades.

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Soy and soy-based foods are considered healthy, particularly in many Asia-Pacific countries, where soy products have long been consumed. Soy and soy-related products have been found to help prevent the occurrence of cardiovascular diseases and certain types of cancer, such as breast and prostate cancer. These products can also have antioxidative effects that alleviate hot flashes during menopause and bone loss. These biological and therapeutic functions are primarily due to the isoflavones derived from soy, whose structure is similar to the structure of 17-β-oestradiol. Despite the many health benefits for humans and animals, the application of isoflavones remains controversial because of their anti-oestrogenic properties. We focused on general information regarding isoflavones, as well as their structure, function, and application. We summarized evidence showing that dietary or supplemental isoflavones exert protective effects on the health of humans and animals. Based on the literature, we conclude that soy foods and isoflavones may be effective and safe; however, more high-quality trials are needed to fully substantiate their potential use.

KEYWORDS: Isoflavones; antioxidant; bone loss; hot flashes; review

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