Isolation and identification of phytoestrogens from dietary/medicinal plants and their beneficial and adverse effects in animal systems

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People are seeking complementary and alternative practices of health care. Phytoestrogens are plant derived compounds that structurally or functionally mimic mammalian estrogens and therefore are considered to play an important role in the prevention of cancers, heart disease, menopausal symptoms and osteoporosis. Most of us are exposed to many of these natural compounds through diet/medicine. When consumed as part of an ordinary diet, phytoestrogens are probably safe and may even be beneficial. On the other hand, the mechanisms and potencies of phytoestrogens are not completely clarified and they may be considered potential endocrine disruptors and therefore caution should be exercised while taking them. Eating very high levels of phytoestrogens may pose some adverse effects on health. Reproductive problems have been documented in laboratory animals, farm animals and wildlife. Phytoestrogens may act as anti-estrogens and harm reproductive health of males (sperm quality, undescended testis and urogenital tract abnormalities). Present status of the regulation and awareness is required on standardization, preparation and extraction methods of phytoestrogen products being sold and marketed as nutritional/herbal supplements. As nutritional/herbal supplements, these products are not supported by preclinical/clinical trials. Because there are many biological activities attributed to the phytoestrogens, some of which could be beneficial or adverse depending on specific circumstances. Thus, improved knowledge of compounds and concentrations in diet/herbal medicine are beneficial for health will be crucial for future systematic efforts to improve diet/herbal medicine quality. Identification of the potential health promoting phytoestrogens from diet/herbal plants towards better nutritional and herbal supplements will be discussed.

Biography

Sharanabasappa A Patil obtained his PhD in Zoology in 2004 from Gulbarga University, India. He was awarded CSIR Senior Research Fellow and CSIR Research Associate and worked in the Department of Zoology, Gulbarga University. In 2011, Department of Science Technology, SERB awarded as Principal Investigator in young scientist scheme and working in the Department of Zoology, Gulbarga University. He was involved in isolation and identification of phytoestrogens and their in vivo physiological impact in animals. He published twenty research papers in scientific journals and one book article in his credit. He attended workshops and conferences presented research findings related to endocrine research.

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