Blue Maize as a Potential Nutraceutical in the Prevention of Colon Cancer and Metabolic Syndrome

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Case Blog

The Nutraceuticals containing anthocyanins are of special interest, since many studies in vivo as well as in vitro show evidence on their antioxidant activity, together with other important health benefits such as anti-cancer, anti-diabetic, anti-inflammatory and neuroprotective effects (Figure 1). Due to this variety of biological properties, anthocyanins are considered multifunctional nutraceuticals and their consumption may benefit one or more functions in the body. An important source of these phenolic compounds is blue maize: studies on an animal model with metabolic syndrome showed a significant improvement in the levels of systolic arterial pressure, HDL cholesterol, and triglycerides when given a supplement of a blue maize extract from the Mixteco race [1]. Furthermore, anthocyanins from the same source have shown anti-proliferative activity on colon cancer cells from the HCT-15 line [2]. On the other hand, metabolic syndrome is a group of risk factors for diabetes type II and cardiovascular disease characterized by insulin resistance, dyslipidemia, hypertension, abdominal obesity and hyperglycemia. In recent years, a direct relationship between metabolic syndrome and certain types of cancer – such as colon – has been reported. The bioactive compounds from blue maize may be helpful in the prevention of metabolic syndrome and colon cancer, having a good potential as nutraceuticals. New research is needed on the health effects of blue maize, as it may help prevent diseases related to the metabolic syndrome.

Figure 1 Blue maize: Nutraceuticals containing anthocyanins.
References
