

Beneficial Role of Vitexin and Isovitexin Flavonoids in the Vascular Endothelium and Cardiovascular System

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Various medicinal plants contain phenolic compounds, which are useful in the treatment of many diseases. Particularly, vitexin and its isomer, isovitexin, possess many pharmacological effects, including antioxidant, anti-inflammatory, anticancer, antidiabetic, neuroprotective, and antinociceptive activities. Current research has provided evidence for the prospective use of vitexin and isovitexin in the formulation of medicinal products useful in the prevention and treatment of specific ailments. The aim of this review was, therefore, to examine the influence of vitexin and isovitexin on the vascular system as well as the possible mechanisms through which the flavonoids exert their effects. The review also discussed the importance of vitexin and

isovitexin in cardiovascular health through the vascular endothelium. *in vivo* and *in vitro* studies suggest that vitexin and isovitexin play a cardioprotective role during ischaemia-reperfusion injury and angiogenesis, while isovitexin decreases perfusion pressure and increases the bioavailability of nitric oxide. Taken together, vitexin and isovitexin are promising as therapeutic agents for the formulation of nutraceuticals for the prevention, management, and treatment of cardiovascular diseases.

Keywords: Vitexin, isovitexin, flavonoids, vascular endothelium, cardiovascular system, nitric oxide, functional food, nutraceutical.