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Helicanthus Elasticas Complete Phenolic Content and in Vitro Cell Reinforcement Limit

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Description

Antioxidant molecules like tannins, phenolic compounds, flavonoids, and so on are abundant in natural products. Helicanthus elasticaOne of these mistletoe-like plants is Danser (Loranthaceae), which typically grows on mango trees in India. An attempt has been made in this study to evaluate the plant's antioxidant properties. Utilizing various in vitro models, the ethanol extract of H. elastica growing on mango trees was investigated. Cold percolation was used to extract ethanol from whole, shade-dried plants. Weighing and dissolving 50 milligrams of the methanol was done. Different concentrations were obtained by dilution of the 5 mg/ml solution. Using ascorbic acid as the standard, standardized in vitro chemical methods were used to investigate the total phenol content, reducing power assay, and scavenging of free radicals like nitric oxide, hydroxyl, hydrogen peroxide, and 1,1-diphenyl-2-picrylhydrazyl. The plant had a total phenol content of 1.89 percent w/w. At concentrations ranging from 5 to 100 g/ml, the extract demonstrated strong reducing power and scavenging of free radicals (nitric oxide, hydroxyl, superoxide anion, and hydrogen peroxide). H. elastica's antioxidant potential was demonstrated in the study "any substance, which when present at a low concentration compared to that of an oxidizable substrate, significantly prevents or delays any oxidation of that substrate," is a broad definition of antioxidants. Oxidizable substrates include proteins, carbohydrates, and DNA, as well as almost anything else that can be found in foods and living tissues. To combat the production of reactive oxygen species (ROS), the body has developed a number of endogenous antioxidant systems. There are enzymatic and non-enzymatic groups to these systems. Superoxide dismutase (SOD), catalase, and glutathione peroxidase are examples of enzymatic antioxidants. The lipid-soluble vitamins (vitamin E and vitamin A or provitamin A (-carotene), the water-soluble vitamin C, and glutathione are examples of non-enzymatic antioxidants. Numerous antioxidants, including tocopherol, ascorbic acid, SOD, catalase, ceruloplasmin, flavonoids, and uric acid, play a role when reactive oxygen species (ROS) are produced in living systems. Which ROS are involved, how and where they are generated, and which damage target is chosen all affect their relative importance and effectiveness. As a result, while one system may receive protection from free radicals from an antioxidant, other systems may not. Antioxidant molecules can be found in large quantities in natural products. The process of looking for these molecules in traditional herbs is ongoing Helicanthus elastic. One of these mistletoe-like plants is Danser (Loranthaceae), which typically grows on mango trees in India. Since this hemiparasite was found to be a rich source of phenolic compounds,the present study attempted to evaluate the plant's antioxidant properties. Different in vitro models were used to investigate the ethanol extract elastica that grows on mango trees. Cold percolation was used to extract 90 percent ethanol from the shade-dried whole plant material, which also included the parasitic roots that were found on the surface of the host. Weighing and dissolving 50 milligrams of the H. elastica alcohol extract in 10 milliliters of methanol was done. The resulting 5 mg/ml solution was appropriately diluted to obtain the various concentrations of plant extracts for the subsequent research. In this study, the standard for comparison was ascorbic acid, also known as vitamin C. It is thought that antioxidant activity testing of putative drugs, particularly plant products, is important. In most cases, the antioxidant activity is first evaluated under in vivo conditions before being screened in vitro. The antioxidant properties of the alcoholic extract were evaluated in a series of test paradigms that represented the generation of various ROS in the current study. It is common knowledge that during oxidative stress, superoxide is produced in cells, primarily through the breakdown of lipid peroxides or the spontaneous dismutation of superoxide. Peroxynitrite is another potent oxidant produced when superoxide and nitric oxide interact under a variety of pathophysiological conditions. One of the smallest and most diffusible known signal molecules, nitric oxide is also a very active molecule that is involved in numerous biological pathways. Nitric oxide can have both positive and adverse consequences relying upon the focuses came to in the diseases [1-3].

Examination of the outcomes got demonstrates a wonderful and fixation subordinate lessening movement that is practically equivalent to that of ascorbic corrosive at 25 µg/ml. This makes it abundantly clear that the extract contains some active principle(s) with a high potential for antioxidant action. The DPPH assay confirmed this even more. In general, the assay systems evaluated the effect on various individual free radicals before measuring the scavenging activity against free radicals as a whole. The extract exhibited non-concentration-dependent nitric oxide scavenging activity. At a concentration of 100 g/ml, which is less than half that of ascorbic acid, inhibition was at its highest, with a value of approximately 35.5%.The hydroxyl radical formation was moderately inhibited at around 59% (ascorbic acid at 56.06%), but the IC50 value was lower. The obtained results indicate a promising antioxidant activity potential. However, using in vivo systems, it is still unknown whether the observed effect would have a significant antioxidant effect on an intact animal [4,5].

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Conflict of interest

No potential conflict of interest was reported by the authors.

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