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Analysis and comparison between antioxidant properties of different varieties (light and dark red) of *Phaseolus vulgaris* l

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A ntioxidant compounds in food play an important role as a health-protecting factor. Scientific evidence suggests that antioxidants reduce the risk for chronic diseases including cancer and heart disease. Primary sources of naturally occurring antioxidants are whole grains, fruits and vegetables. The main characteristic of an antioxidant is its ability to trap free radicals that are present in biological systems from a wide variety of sources. These free radicals may oxidize nucleic acids, proteins, lipids or DNA and can initiate degenerative disease. Antioxidant compounds like phenolic acids, polyphenols and flavonoids scavenge free radicals such as peroxide, hydroperoxide or lipid peroxyl and thus inhibit the oxidative mechanisms that lead to degenerative diseases. Antioxidant activity of *Phaseolus vulgaris* L. increases with the red color of the beans. The light and dark red kidney beans were subjected to four different pre-treatment procedures-grinding, cooking, dehulling and soaking & cooking, which was then followed by extraction of phenolic antioxidants using two different solvent systems-methanol and ethanol. The extracts obtained were qualitatively analyzed using Thin Layer Chromatography and quantitatively analyzed for their Total Phenol Content, antioxidant and antiradical activity. The therapeutic application of the extracts was tested by antimicrobial activity, where they marginally inhibited the Gram positive and Gram negative organisms.

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