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TITLE

Isolation and Identification of Bioactive Principles of Medicinally Important Vegetables

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There is an increasing interest in the isolation and characterization of novel bioactive components from traditional medicinal vegetables as nutraceuticals. Ash gourd (*Benincasa hispida*), a vegetable with medicinal value is widely used for the treatment of epilepsy, ulcer, and other nervous disorders. The vegetable juice is recommended for heart ailments and high blood pressure and is reported to possess anabolic properties that encourage tissue growth. The juice was therefore screened for the bioactive principles responsible for some of the above activities.

The major compound in the juice identified as acetoin glucoside based on NMR, MS and chemical synthesis was tested for its anabolic properties initially in plant systems. At its optimum concentration, 0.176 mg, the diameter of tobacco leaf discs increased to 1.13 cm compared to 0.6 cm in control. An increase in diameter up to 1.34 cm was also observed on application of aqueous extract of ash gourd (0.88 mg, dry weight basis). Acetoin glucoside as the compound responsible for the tissue growth regulating properties of the vegetable was thus demonstrated.

Aqueous fraction of the juice after ether and ethyl acetate washing displayed ACE inhibitory activity (68% ACE inhibition at 6mg/ml). Maximum activity was observed in a fraction having a molecular weight in the range 500-1000Da when purified by RP-HPLC and GPC. The purified fraction with a UV absorbance at 220 nm and 254 nm showed the active principle to be a peptide having amino acids such as alanine and valine based on preliminary MS data.

Biography

Smt. Jyoti Tripathi (M.Sc., Organic chemistry) is pursuing her Ph.D from Homi Bhabha National Institute, Mumbai, India. Her present area of research is Impact of radiation processing on some phytochemical constituents of selected Indian vegetables and their products. She is working with Bhabha Atomic Research Centre, Mumbai, India as scientific Officer, a premier research organization. She has four publications in peer reviewed reputed journals.