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## A simple RP-HPLC method development and validation for the simultaneous determination of vitexin and isovitexin present in Mung bean (*Vigna radiata* L)

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Mung bean is rich source of protein, vitamins and certain minerals. Mung bean grains also exhibits a strong antioxidant activity. Vitexin and isovitexin are the major compounds responsible for the antioxidant activity of mung bean. Due to their clinical importance, there is a need to develop simple, sensitive and accurate methods for the determination of these compounds. Thus, an attempt has been made to develop a reversed-phase high-performance liquid chromatography method for the simultaneous determination of vitexin and isovitexin present in mung bean. The chromatographic system was optimized using an analytical Hypersil ODS column (150×4.6 mm) with mobile phase 0.1% ortho-phosphoric acid (mobile phase A) and acetonitrile (mobile phase B) at flow rate of 1.0 ml/min. Vitexin and isovitexin were eluted at 9.52 and 10.25 min and the chromatograms were extracted at 360.0 nm. The method was validated for linearity ranges, precision, recovery, Limit of Detection (LOD) and Limit of Quantification (LOQ). The linearity for both compounds was observed from 5 ppm to 100 ppm with correlation coefficient of 0.999, recovery for vitexin and isovitexin was 98.27 and 97.60%, respectively. The %RSD for inter-day precision (vitexin 0.98% and isovitexin 1.20%) and intra-day precision (vitexin 1.42% and isovitexin 1.73%) was found to be satisfactory. The LOD values were 0.094 and 0.069 mg/100 g, while the LOQ were 0.312 and 0.230 mg/100 g, for vitexin and isovitexin, respectively. The developed and validated method was successfully applied for the detection and quantification of vitexin and isovitexin content present in two mung bean samples procured from different regions.

### Biography

Maninder Meenu has completed her MSc from Punjabi University, Patiala and pursuing her Doctoral studies from CSIR-Central Scientific Instruments Organization, Chandigarh. She is working on grain quality and safety. Her areas of interest are proximate composition analysis, antioxidant activity determination, HPLC method development and microbial analysis.

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