J Anal Bioanal Techniques 2012, 3:7
http://dx.doi.org/10.4172/2155-9872.S1.010

OMICS Group Conferences
Accelerating Scientific Discovery

3rd International Conference and Exhibition on
Analytical & Bioanalytical Techniques

November 22-24, 2012 Hyderabad International Convention Centre, India

## Development and validation of citicoline sodium and piracetam in combined tablet dosage form by dual wavelength method using U.V spectrophotometer

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The present manuscript describe simple, sensitive, rapid, accurate, precise and cost effective dual wavelength spectrophotometric method for the simultaneous determination of Citicoline sodium and Piracetam in combined tablet dosage form. The utility of dual wavelength data processing program is its ability to calculate unknown concentration of components of interest in a mixture containing an interfering component. The principle for dual wavelength method is "the absorbance difference between two points on the mixture spectra is directly proportional to the concentration of the component of interest". The method was based on determination of Piracetam at the absorbance difference between 220 nm and 273 nm and Citicoline at the wavelength maxima 380 nm. The linearity was obtained in the concentration range of 5–50 µg /ml for both Citicoline sodium and Piracetam. The mean recovery was 100.50±0.70 and 99.22±1.35 for Citicoline sodium and Piracetam respectively. The method was successfully applied to pharmaceutical dosage form because no interference from the tablet excipients was found. The suitability of these methods for the quantitative determination of Citicoline sodium and Piracetam was proved by validation. The proposed methods were found to be simple and sensitive for the routine quality control application of Citicoline sodium and Piracetam in pharmaceutical tablet dosage form. The results of analysis have been validated statistically and by recovery studies.

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## A validated RP-HPLC method for simultaneous determination of metformin HCl and vildagliptin in pharmaceutical formulation

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A selective and sensitive reverse phase high performance liquid chromatographic (RP-HPLC) method has been developed for the separation and quantification of metformin HCl (MET) and vildagliptin (VILD) in tablet dosage form. The determination was carried out using phenomenax C18 column (4.6X150 mm) as a stationary phase and mobile phase comprised of phosphate buffer (pH6.0): methanol (65:35v/v). The pH of phosphate buffer is adjusted to 6.0 by using orthophosphoric acid. The flow rate was maintained at 1.0ml/min and the eluent was monitored at 255nm.The retention time of MET and VILD were 1.503 min and 5.530 min respectively. The method was validated in terms of linearity, precision, accuracy, ruggedness, specificity and robustness. The method was linear over the range 50-150 µg/ml for both MET (r = 0.999) and VILD (0.998). For precision studies; RSD for MET and VILD were 0.24 and 0.14 respectively. The percentage recoveries for both drugs from their tablets were 100.16 and 99.98 respectively. Inter-day; intra-day RSD for both drugs were found be 0.27 and 0.26, 0.13 and 0.29 respectively.

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