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(57) Abstract :
The present invention provides a simple, sensitive, accurate and validated method for the estimation of Hydroxyproline in urine samples of Osteoarthritic patients. The method comprising: dissolving Hydroxyproline using 0.3% Formic acid and Acetonitrile as mobile phase; running chromatogram through column 5µm Cyano column (4.6x150mm) using mobile phase; optimizing conditions of column at flow rate 0.5ml/min, injecting volume 10µL, run time 16 minutes; column temperature at 50ºC; running the sample and recording chromatogram from the chromatograph for estimation of Hydroxyproline. The method for estimation of Hydroxyproline, wherein the linearity results show regression equation y=805.28x+80131; correlation coefficient (r2) 0.9993; slope 805.28 and intercept 80131. The method is accurate and precise with %recovery of more than 70% and %RSD of less than 2; the method establishes a linear relationship between peak area and concentration range of 10ng-320ng/ml. The method is highly selective as well as sensitive as it shows no interference of peaks and gave results within limits for sensitivity. The method is proven to be stable as recovered concentration for each stability test is found to be 98%. The method for estimation of Hydroxyproline may be used for effectively identify and estimate the concentration of Hydroxyproline as urinary biomarker for diagnosis and treatment for Osteoarthritis.

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