

An Improved Micromethod for Tyrosine Estimation

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A modified and improved micromethod for tyrosine determination has been developed. The method is sensitive, economic and applicable for estimation of tyrosine released in enzymatic reactions and in tissue. A range of Folin-Ciocalteu (FC) reagent was used to optimize the conditions for the development of blue color. Thus in 1.5 ml of the assay system, the suitably diluted FC reagent at the final concentration of 0.2 N gave a rapid optimum color development with an absorption maximum at 750 nm. Color development showed a linear relationship in the range of 2 to 16 μg tyrosine for a described assay system under optimized conditions. Thus, the method is 3-fold more sensitive in terms of its estimation range than a conventional method. The blue color formed was stable up to 24 h. The applicability of the method for tyrosine determination in the assay of lysosomal cathepsin D and in tissue was checked by comparison to the conventional procedure. Under both systems the results obtained by the micromethod were identical to those obtained by the conventional method. In general the method that produces quantitatively a blue color, not only is rapid and economical in terms of chemical usage but also has application for routine biochemical analysis.

Key words: Tyrosine Estimation, Folin-Ciocalteu Reagent, Micromethod