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Ultramicro method for glucose determination

by

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ABSTRACT

An ultramicro method for the determination of glucose using glucose oxidase peroxidase system was presented. The analyse was done in microtiter plate instead of glass tube. The reaction color was measured in a minireader photometer. Within-run and between-run precisions of the proposed method were highly satisfactory. Recovery of the method was closed to 100%. No interfering effects were found from uric acid (up to 50 mg/dl), creatinine (up to 50 mg/dl), L-ascorbic acid (up to 10 mg/dl), reduced glutathione (up to 25 mg/dl), bilirubin (up to 5 mg/dl and hemoglobin (up to 200 mg/dl). The values of glucose concentrations obtained by proposed method correlated well with those obtained by the conventional glucose oxidase method ($r = 0.9994$), the Yellow Spring Glucose analyzer ($r = 0.9910$) and o-toluidine methods ($r = 0.9885$). The stability of the working reagent was at least 6 weeks when kept in the refrigerator. By this method the cost of the glucose assay could be reduced about 50 folds compared with those of generally commercial reagent kits.