

ENZYMATIC ASSAY FOR PAPER BASED KIT OF GLUCOSE DETECTION

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Excess of Glucose concentration in our body is the cause of Diabetes. Type-2 diabetes are common one amongst the people. There are many diagnostic tools are available for diabetes like Pathology lab, Glucometer etc. but all are invasive method in which there is a need of blood for diagnostic. By invasive method problems like infection, storing of blood etc. may occur. So for assessment of Glucose concentration into body non-invasively or chemically, some chemical reagents like Glucose Oxidase, Horseradish peroxidase, and Amplex Red can be used. To check the stability, Activity like characteristics, Colorimetric Enzymatic assay was performed. After the reaction one pink coloured product Resorufin was formed which has absorbance maxima at 572nm. Slope of plots between time and Absorbance gives Initial rate of reaction. Making each time one reagent as a limiting plots at different limiting concentrations for different reagents at each time were plotted as shown in Result section. Kinetic equation of both reaction can be done with the help of Michaelis- Menten equation and Bisubstrate equation. Reaction was performed in microplate well and Kinetics of Reaction by varying concentrations of Enzymes and Substrates was measured using UV-visible spectroscopy and results were analysed. Also this assay was performed on different papers with some alternatives of reagents and result were analysed.

Finally, Establishment of enzymatic assay for these involving reagents was done.

Key Words: Enzyme, Enzymatic assay, Reaction, Glucose detection