

[54] ASSAY SYSTEMS USING MORE THAN ONE ENZYME

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[57] ABSTRACT

This specification discloses methods of detection or measurement of an enzyme or of its specific substrate, and sensors used in such methods. The present invention is concerned with a multi-enzyme system, and the specification discloses, as one aspect of the invention a method of assay in which an electrode poised at a suitable potential is contacted with a system comprising a first enzyme, a cofactor linked with said enzyme and a mediator compound which transfers charge to the electrode from the first enzyme when its electrical state is changed by reaction of cofactor material.

The cofactor may be NAD, NADP (both collectively referred to herein as NAD(P)), cAMP, ATP, GTP, TTP, or CTP.

The specification particularly illustrates a method of assay in which an electrode (1) poised at a suitable potential is contacted with a system comprising a first enzyme E<sub>1</sub> a nicotinamide adenine dinucleotide compound N linked with said enzyme E<sub>1</sub> and a mediator compound F which transfers charge to the electrodes from the first enzyme when its electrical state is changed by a NAD(P) NAD(P)H reaction. The NAD compound may act as a "bridge" between the said enzyme/mediator system and further NAD utilizing enzyme E<sub>2</sub>.

7 Claims, 1 Drawing Sheet

