

Development of biosensors for in vivo measurement.

Real-time continuous in vivo monitoring of analytes at a specific region can be performed by the use of implantable biosensors. Biosensors are composed from biological recognition elements (eg enzymes, antibodies, nucleic acids etc.), associated with or integrated within a physiochemical transducer, which may be optical, electrochemical, thermometric, piezoelectric or magnetic. Specific catalytical reaction of enzymes and the electrochemical transducer are generally employed for the construction of implantable biosensors.

Variety of sensors can be prepared by introducing specific enzyme to each analyte (eg glucose oxidase for glucose). In addition to glucose, in vivo measurement of glutamate, lactate, pyruvate, choline and more can be performed.

M. Yasuzawa Ph.D. Department of Chemical Science and Technology, The University of Tokushima, Japan