Abstract

Fiber optic Biosensors (FOBS) are basically an analytical device that is derived from an optical fiber. It has the ability to measure various biological species like proteins, toxins, DNA etc. by making use of an optical field. FOBS offer an effective alternative to other traditional immunological devices because of its qualities like accuracy, rapidness and cost effectiveness. One of the types of FOBS is a tapered optical fiber that utilizes special geometries so that its evanescent field is exposed to interact with the target. In order to increase its effectiveness it makes use of different transduction mechanisms like absorbance, fluorescence, refractive index changes and Surface Plasmon Resonance which increases the selectivity and sensitivity. In this paper the basic principles of FOBS, its types and some of its applications are discussed.

Index Terms

Computer Science  Communication

Keywords

Biosensors  Evanescent Field  Immunoassay  Fret  Microarray