

Title (en)

HYDROGEL BIOSENSOR AND BIOSENSOR-BASED HEALTH ALARM SYSTEM

Title (de)

HYDROGEL-BIOSENSOR UND BIOSENSORGESTÜTZTES GESUNDHEITSALARMSYSTEM

Title (fr)

BIOCAPTEUR HYDROGEL ET SYSTEME D'ALARME SANITAIRE FONDEE SUR CE BIOCAPTEUR

Publication

EP 1309845 A2 20030514 (EN)

Application

EP 01957060 A 20010420

Priority

- US 0112934 W 20010420
- US 19905700 P 20000422

Abstract (en)

[origin: WO0181890A2] A biosensor (10) has a hydrogel (30) in a rigid and preferably biocompatible enclosure (20). The hydrogel (30) includes an immobilized analyte binding molecule (ABM) and an immobilized analyte. The immobilized analyte competitively binds with free analyte to the ABM, thus changing the number of crosslinks in the hydrogel (30), which changes hydrogel swelling tendency (and thus the osmotic pressure) in its confined space in proportion to the concentration of free analyte concentration. By measuring the change in hydrogel pressure with a pressure transducer (40), the biosensor (10) is able to accurately measure the concentration of the free analyte molecule without the problem of oxygen limitations and interference encountered by prior art biosensors. A battery (64) powered telemeter (60) operably engaged to the pressure transducer (40) sends a radio data signal to a receiver (66) containing an alarm system operably attached to a computer (62). Furthermore, an alarm system utilizes such a sensor to automatically notify a person that the analyte level is outside desired predetermined parameters, and/or to automatically inject an agent to counteract the adverse analyte levels.

IPC 1-7

G01N 1/00

IPC 8 full level

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CPC (source: EP KR)

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WO 0181890 A2 20011101; **WO 0181890 A3 20020221**; AU 7884001 A 20011107; EP 1309845 A2 20030514; EP 1309845 A4 20051012; JP 2004507283 A 20040311; KR 20030031895 A 20030423

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