

Title (en)

APPARATUS FOR MEASURING AN OXYGEN CONCENTRATION GRADIENT AND METHOD OF USE THEREOF

Title (de)

VORRICHTUNG ZUR MESSUNG EINES SAUERSTOFF-KONZENTRATIONSGRADIENTEN UND VERFAHREN ZUR VERWENDUNG DERSELBEN

Title (fr)

APPAREIL DE MESURE D'UN GRADIENT DE CONCENTRATION EN OXYGENE ET SON PROCEDE D'UTILISATION

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Application

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Abstract (en)

[origin: WO0127585A2] The invention provides an improved, reliable and efficient way of measuring the oxygen concentration gradient in a sample by a novel apparatus and accompanying method of calculating linear oxygen concentrations within the sample, permitting diagnostic testing, for example, of the effects of a developmental or metabolic change in a cell or tissue, <i>in vitro</i> or <i>in vivo</i>, in response to disease, injury, radiation, or mechanical or chemical intervention, or simply to changed circumstances, or to measure the oxygen permeability of a membrane or plastic. The apparatus in a preferred embodiment comprises a core digital signal processor (DSP), having sufficient memory (RAM and ROM) to perform the necessary calculations, to control output of excitation light from a light source, and to collect phosphorescent lifetime data; and signal processors (A/D and D/A).

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