

Title (en)
REAL-TIME ELECTRONIC CELL SENSING SYSTEM AND APPLICATIONS FOR CYTOTOXICITY PROFILING AND COMPOUND ASSAYS

Title (de)
ELEKTRONISCHES ECHTZEIT-ZELLENERFASSUNGSSYSTEM UND ANWENDUNGEN FÜR DIE CYTOTOXIZITÄTSPROFILIERUNG UND ZUSAMMENGESETZTE ASSAYS

Title (fr)
SYSTEMES DE DETECTION DE CELLULES ELECTRONIQUES EN TEMPS REEL ET APPLICATIONS EN MATIERE DE PROFILAGE DE CYTOTOXICITE ET DOSAGES DE COMPOSES

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EP 1749203 A4 20090506 (EN)

Application
EP 05722991 A 20050209

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• US 54292704 P 20040209
• US 54871304 P 20040227
• US 61460104 P 20040929
• US 98773204 A 20041112

Abstract (en)
[origin: WO2005077104A2] The present invention includes devices, systems, and methods for assaying cells using cell-substrate impedance monitoring. In one aspect, the invention provides cell-substrate impedance monitoring devices that comprise electrode arrays on a nonconducting substrate, in which each of the arrays has an approximately uniform electrode resistance across the entire array. In another aspect, the invention provides cell-substrate monitoring systems comprising one or more cell-substrate monitoring devices comprising multiple wells each having an electrode array, an impedance analyzer, a device station that connects arrays of individual wells to the impedance analyzer, and software for controlling the device station and impedance analyzer. In another aspect, the invention provides cellular assays that use impedance monitoring to detect changes in cell behavior or state. The methods can be used to test the effects of compounds on cells, such as in cytotoxicity assays. Methods of cytotoxicity profiling of compounds are also provided.

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Citation (search report)
• [E] WO 2005047482 A2 20050526 - XU XIAO [US], et al
• [X] WO 2004010103 A2 20040129 - ACEA BIOSCIENCES INC [US], et al
• [X] US 5187096 A 19930216 - GIAEVER IVAR [US], et al
• [X] XIAO C ET AL: "An In-Depth Analysis of Electric Cell-Substrate Impedance Sensing to Study the Attachment and Spreading of Mammalian Cells", ANALYTICAL CHEMISTRY, AMERICAN CHEMICAL SOCIETY. COLUMBUS, US, vol. 74, no. 6, 15 March 2002 (2002-03-15), pages 1333 - 1339, XP002977290, ISSN: 0003-2700
• [A] EHRET R ET AL: "Monitoring of cellular behaviour by impedance measurements on interdigitated electrode structures", BIOSENSORS & BIOELECTRONICS, ELSEVIER SCIENCE PUBLISHERS, BARKING, GB, vol. 12, no. 1, 1 January 1997 (1997-01-01), pages 29 - 41, XP002272321, ISSN: 0956-5663
• [A] WOLF B ET AL: "Monitoring of cellular signalling and metabolism with modular sensor-technique: the PhysioControl-Microsystem (PCM)", BIOSENSORS & BIOELECTRONICS, ELSEVIER SCIENCE PUBLISHERS, BARKING, GB, vol. 13, no. 5, 15 March 1998 (1998-03-15), pages 501 - 509, XP002408458, ISSN: 0956-5663
• See references of WO 2005077104A2

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