

Title (en)
DEVICE AND METHOD FOR DETERMINING A BIOLOGICAL, CHEMICAL AND/OR PHYSICAL PARAMETER IN A LIVING BIOLOGICAL TISSUE

Title (de)
VORRICHTUNG UND VERFAHREN ZUM BESTIMMEN EINES BIOLOGISCHEN, CHEMISCHEN UND/ODER PHYSIKALISCHEN PARAMETERS IN LEBENDEM BIOLOGISCHEM GEWEBE

Title (fr)
DISPOSITIF ET PROCÉDÉ PERMETTANT DE DÉTERMINER UN PARAMÈTRE BIOLOGIQUE, CHIMIQUE ET/OU PHYSIQUE DANS UN TISSU BIOLOGIQUE VIVANT

Publication
EP 2557991 A2 20130220 (DE)

Application
EP 11712536 A 20110331

Priority
• DE 102010014775 A 20100413
• EP 2011054977 W 20110331

Abstract (en)
[origin: CA2795171A1] The invention relates to a device for determining biological, chemical and/or physical parameters in living biological tissue, comprising an energy supply unit, a laser operating unit with at least one laser source directed at the biological tissue, at least one sensor unit for detecting the light scattered back and/or absorbed by the biological tissue, a control unit, a storing and processing unit and an interface for an external data processing unit. The method according to the invention includes execution of a calibrating phase for ascertaining a reference set (R) of reference vectors (Ri), in each case involving independently ascertaining a parameter (BZi), radiating unpolarized laser light onto the biological tissue and registering a measured value vector (Mi) from a series of optical measured variables and executing an interpolation phase for ascertaining an interpolation set (I) of interpolation vectors (Ik), in each case involving radiating unpolarized laser light onto the biological tissue and registering a measured value vector (Mk) from a back-scattered light intensity with a subsequent determination of an interpolated parameter (BKk) from the reference set (R).

IPC 8 full level
A61B 5/1455 (2006.01); **A61B 5/145** (2006.01)

CPC (source: EP US)
A61B 5/0059 (2013.01 - US); **A61B 5/14532** (2013.01 - EP US); **A61B 5/14558** (2013.01 - EP US); **G01N 21/21** (2013.01 - EP US); **G01N 21/274** (2013.01 - EP US); **G01N 21/4738** (2013.01 - EP US); **G01N 21/49** (2013.01 - EP US); **A61B 2562/0233** (2013.01 - EP US); **A61B 2562/046** (2013.01 - EP US); **G01N 2021/4709** (2013.01 - EP US); **G01N 2021/4711** (2013.01 - EP US); **G01N 2201/1281** (2013.01 - EP US)

Citation (search report)
See references of WO 2011128209A2

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)
DE 102010014775 A1 20111013; CA 2795171 A1 20111020; CN 102858243 A 20130102; EP 2557991 A2 20130220; JP 2013523362 A 20130617; US 2013237797 A1 20130912; WO 2011128209 A2 20111020; WO 2011128209 A3 20111208

DOCDB simple family (application)
DE 102010014775 A 20100413; CA 2795171 A 20110331; CN 201180018606 A 20110331; EP 11712536 A 20110331; EP 2011054977 W 20110331; JP 2013504195 A 20110331; US 201113639574 A 20110331