

Title (en)

METHOD FOR THE DETERMINATION OF A LIGHT TRANSPORT PARAMETER IN A BIOLOGICAL MATRIX

Title (de)

VERFAHREN ZUR BESTIMMUNG EINES LICHTTRANSPORTPARAMETERS IN EINER BIOLOGISCHEN MATRIX

Title (fr)

PROCEDE DE DETERMINATION D'UN PARAMETRE DE TRANSPORT DE LUMIERE DANS UNE MATRICE BIOLOGIQUE

Publication

EP 1365681 A2 20031203 (DE)

Application

EP 02719907 A 20020223

Priority

- DE 10110599 A 20010306
- EP 0201944 W 20020223

Abstract (en)

[origin: WO02069790A2] Method for the selective determination of a light transport parameter, characteristic of the light scattering in a biological matrix (5), in particular for the purpose of non-invasive determination of the concentration of glucose in the biological matrix. The above includes a number of detection measurements in which light is injected into the biological sample as primary light and an intensity value for escaping secondary light measured in a detection location, which is found at various separations from the location of light injection for the number of detection measurements. The light transport parameter which is characteristic for the light scattering in the biological matrix is derived from the intensity values in an analytical step by means of an analytical algorithm. According to the invention, the scattering coefficient can be selectively determined, whereby the analytical algorithm comprises a step in which a value for change with time DELTA I(r) describing the change with time of the intensity value is derived from at least two different intensity values from different times.

IPC 1-7

A61B 5/00; **G01N 21/49**

IPC 8 full level

A61B 5/00 (2006.01)

CPC (source: EP US)

A61B 5/14532 (2013.01 - EP US); **A61B 5/1455** (2013.01 - EP US); **A61B 2562/0242** (2013.01 - EP US); **Y10T 436/144444** (2015.01 - EP US)

Citation (search report)

See references of WO 02069790A2

Citation (examination)

- US 5782755 A 19980721 - CHANCE BRITTON [US], et al
- BRUULSEMA J T ET AL: "Correlation between blood glucose concentration in diabetics and noninvasively measured tissue optical scattering coefficient", OPTICS LETTERS, vol. 22, no. 3, February 1997 (1997-02-01), pages 190 - 192, XP000684350

Designated contracting state (EPC)

AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

DOCDB simple family (publication)

WO 02069790 A2 20020912; **WO 02069790 A3 20021227**; AU 2002251002 A1 20020919; DE 10110599 A1 20020912; EP 1365681 A2 20031203; US 2004152089 A1 20040805; US 7565249 B2 20090721

DOCDB simple family (application)

EP 0201944 W 20020223; AU 2002251002 A 20020223; DE 10110599 A 20010306; EP 02719907 A 20020223; US 47111304 A 20040312