

Title (en)

AFFINITY SENSOR FOR THE DETECTION OF BIOLOGICAL AND/OR CHEMICAL SPECIES AND USE THEREOF

Title (de)

AFFINITÄTSSENSOR ZUM NACHWEIS BIOLOGISCHER UND/ODER CHEMISCHER SPEZIES UND DESSEN VERWENDUNG

Title (fr)

CAPTEUR D'AFFINITE POUR LA DETECTION D'ESPECES BIOLOGIQUES ET/OU CHIMIQUES, ET SON UTILISATION

Publication

EP 1216310 A1 20020626 (DE)

Application

EP 00962399 A 20000828

Priority

- DE 19943704 A 19990908
- EP 0008360 W 20000828

Abstract (en)

[origin: WO0118242A1] The invention relates to an affinity sensor for the detection of biological and/or chemical species which enables rapid, quantitative and simple detection of the presence of biological and/or chemical species in particular on surfaces in the lower to middle micrometer range. The sensor, depending on the embodiment, consists of an optically transparent or a partially reflecting substrate (1) which is provided with several, voneinander beabstandeten microstructured binding surfaces (2), whose surface compared to the diameter of the nanoparticles (3) and above the light optical refractive limit is chosen to be of such a size that said nanoparticles (3), which are provided with coupling partners (4), which have a selective affinity to the binding surfaces (2) or (DNA) sequences specifically bound thereto such that they can bind durably to the binding surfaces (2) or specifically bound to the said sequences (DNA), dass auf one or more binding surfaces (2) eine so large number of nanoparticles (3) unter Ausbildung von nanoparticle occupation (31) anbindbar can be connected, dass die von der nanoparticle covearge (31) covered surface relative to the surface Fläche einer Bindefläche (2) can comprise at least 0.1 %, whereby all binding surfaces together (2) zusammen in such active surfaces are arranged, such that they together with the object of a standard optical light microscope with a numerical mit aperature between 0.1 .and 0.9, for determining the nanoparticle occupation (31) generated optical absorption, reflection or scattering or by a device for the determination of plasmonen resonances.

IPC 1-7

C12Q 1/68; **G01N 21/55**; **G01N 33/543**

IPC 8 full level

G01N 21/25 (2006.01); **G01N 21/64** (2006.01); **G01N 33/543** (2006.01); **C40B 40/06** (2006.01)

CPC (source: EP)

G01N 21/6428 (2013.01); **G01N 21/6452** (2013.01); **G01N 33/54366** (2013.01); **G01N 33/54373** (2013.01); **B01J 2219/00529** (2013.01); **B01J 2219/00585** (2013.01); **B01J 2219/00596** (2013.01); **B01J 2219/00608** (2013.01); **B01J 2219/00614** (2013.01); **B01J 2219/00648** (2013.01); **B01J 2219/00659** (2013.01); **B01J 2219/00722** (2013.01); **C40B 40/06** (2013.01)

Citation (search report)

See references of WO 0118242A1

Designated contracting state (EPC)

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

DOCDB simple family (publication)

WO 0118242 A1 20010315; DE 19943704 C1 20010510; EP 1216310 A1 20020626

DOCDB simple family (application)

EP 0008360 W 20000828; DE 19943704 A 19990908; EP 00962399 A 20000828