

Title (en)

Device for carrying out tests, in particular molecular biological tests

Title (de)

Vorrichtung zur Durchführung von Tests, insbesondere von molekularbiologischen Tests

Title (fr)

Dispositif d'exécution de tests, notamment de tests biomoléculaires

Publication

EP 2322276 B1 20131225 (DE)

Application

EP 10185269 A 20101001

Priority

DE 102009046598 A 20091111

Abstract (en)

[origin: EP2322276A1] The device for performing molecular biological tests, comprises an object carrier on which molecular biological reference patterns are locally arranged in an area by a width and a length, where the reference patterns are potentially suitable in order to cooperate with counter reference present in a solution. The solution is guided for accelerating a reaction between the reference patterns and the counter reference by a pumping device (17) constant over the area. The object carrier is a part of a reaction chamber (11) with an inlet area (12) spaced apart for area, and an outlet area (13). The device for performing molecular biological tests, comprises an object carrier on which molecular biological reference patterns are locally arranged in an area by a width and a length, where the reference patterns are potentially suitable in order to cooperate with counter reference present in a solution. The solution is guided for accelerating a reaction between the reference patterns and the counter reference by a pumping device (17) constant over the area. The object carrier is a part of a reaction chamber (11) with an inlet area (12) spaced apart for area, and an outlet area (13) spaced apart for area. The solution of the reaction chamber flows from direction of the inlet area towards the direction of the outlet area. A flow element (38) is arranged between the inlet area of the reaction chamber and the area with the reference patterns, where the flow element deflects the solution flowing over the inlet area into the area of the reaction chamber in such a way that the flow cross-section of the solution is increased so that the solution flows in comparison with the same reaction chamber without the flow element over a width of the area observed transverse to the flow direction of the solution. The flow element has a height, which corresponds to the height of the reference patterns on the object carrier. The object carrier is overlaid from a covering element, which is a part of the reaction chamber. The flow element is arranged at the covering element on the side turned to the object carrier. The flow element extends itself over the total height of the reaction chamber between the object carrier and the covering element and is formed as a separate component. The flow element is formed on the object carrier or the covering element in a single piece manner. The flow element is formed through structuring the surface of the object carrier or the covering element and is arranged near to the inlet areas. The inlet area of the reaction chamber is widely formed in funnel-shaped manner such that the flow element is directly connected on the funnel-shaped extension in the flow direction of the solution. The flow element is aligned with the extension so that the flow element has a greater extension transverse to the flow direction than extension in the area of the beginning of the extension. The flow element has a round cross-section area, and is formed in cylindrical manner. The object carrier has a rectangular shape in the region of the area, and the area has a rectangular base surface. The width and length lie half of the width of the object carrier in the region of the area. The object carrier is formed in equal distance to the lateral edges. The distance between the flow element and the area on the one side and the flow element and the inlet area on the other side is equally large.

IPC 8 full level

B01L 7/00 (2006.01)

CPC (source: EP)

B01L 3/502715 (2013.01); **B01L 3/502746** (2013.01); **B01L 7/525** (2013.01); **B01L 2300/0819** (2013.01); **B01L 2300/0822** (2013.01); **B01L 2300/087** (2013.01); **B01L 2300/088** (2013.01); **B01L 2300/1827** (2013.01); **B01L 2400/086** (2013.01)

Citation (examination)

MICHAEL SCHLÜTER: "Mikrofluidische Strukturen für biochemische Analysen", 28 May 2004 (2004-05-28), Retrieved from the Internet <URL:http://sylvester.bth.rwth-aachen.de/dissertationen/2004/156/04_156.pdf> [retrieved on 20111208]

Cited by

CN108132170A; WO2013028980A1

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)

EP 2322276 A1 20110518; **EP 2322276 B1 20131225**; DE 102009046598 A1 20110512; DE 102009046598 B4 20240613

DOCDB simple family (application)

EP 10185269 A 20101001; DE 102009046598 A 20091111