

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 A1 20110518 (DE)

Application
EP 10185269 A 20101001

Priority
DE 102009046598 A 20091111

Abstract (en)
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.

Abstract (de)
Die Erfindung betrifft eine Vorrichtung (10) zur Durchführung von Tests, insbesondere von molekularbiologischen Tests, mit einem Objektträger (26), auf dem in einem insbesondere durch eine Breite (b) und eine Länge örtlich begrenzten Areal (35) eine Vielzahl von insbesondere molekularbiologischen Referenzmustern (36) ortsfest angeordnet sind, welche potentiell geeignet sind, um mit in einer Lösung befindlichen Gegenreferenzen zusammenzuwirken, wobei die Lösung zur Beschleunigung einer Reaktion zwischen den Referenzmustern (36) und den Gegenreferenzen mittels einer Pumpeinrichtung (17) fortwährend über das Areal (35) geleitet wird, wobei der Objektträger (26) Teil einer Reaktionskammer (11) mit einem zum Areal (35) beabstandeten Einlassbereich (12) und einem zum Areal (35) beabstandeten Auslassbereich (13) ist und wobei die Lösung die Reaktionskammer (11) aus Richtung des Einlassbereiches (12) in Richtung des Auslassbereiches (13) durchströmt. Erfindungsgemäß ist vorgesehen, dass zwischen dem Einlassbereich (12) der Reaktionskammer (11) und dem Areal (35) mit den Referenzmustern (36) ein Strömungselement (38) angeordnet ist, das die über den Einlassbereich (12) in den Bereich der Reaktionskammer (11) einströmende Lösung derart auslenkt, dass der Strömungsquerschnitt der Lösung so vergrößert wird, dass die Lösung im Vergleich zur selben Reaktionskammer (11) ohne Strömungselement (38) über eine quer zur Strömungsrichtung (32) der Lösung betrachtete größere Breite des Areals (35) strömt.

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Citation (search report)
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• [X] US 2003162283 A1 20030828 - KUNO NORIHITO [JP], et al
• [X] US 2003178641 A1 20030925 - BLAIR STEVEN M [US], et al

Cited by
CN108132170A; WO2013028980A1

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