

Title (en)
MICROSTRUCTURES FOR THE MANIPULATION OF FLUID SAMPLES

Title (de)
MIKROSTRUKTUREN FÜR DIE MANIPULATION VON FLÜSSIGEN PROBEN

Title (fr)
MICROSTRUCTURES PERMETTANT DE MANIPULER DES ECHANTILLONS FLUIDES

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Abstract (en)
[origin: WO9909042A2] The invention presents a microfluidic device and method for separating a desired material, such as nucleic acid, from other materials in a fluid sample. In a preferred embodiment, the device comprises a microfabricated chip (20) having an inlet port (28), an outlet port (30), and an extraction chamber (26) in fluid communication with the ports. The chamber (26) has internal attachment surfaces for capturing the desired material from the fluid sample as the sample flows continuously through the chamber. The captured material may then be eluted by forcing an elution fluid to flow through the chamber (26), thus releasing the material from the internal surfaces into the elution fluid. The flow-through design of the device allows target material from a relatively large volume of fluid sample to be concentrated into a much smaller volume of elution fluid. The internal surfaces are preferably formed by an array of columns (32) integrally formed with a wall of the chamber (26) and extending into the chamber (26). The columns (32) provide a large surface area for capturing the desired material. The device also preferably includes an integrated heater (34) for increasing elution efficiency.

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