

Title (en)  
MICROFLUIDIC CHIP DEVICE FOR OPTICAL FORCE MEASUREMENTS AND CELL IMAGING USING MICROFLUIDIC CHIP CONFIGURATION AND DYNAMICS

Title (de)  
MIKROFLUIDISCHE CHIPVORRICHTUNG FÜR OPTISCHE KRAFTMESSUNGEN UND ZELLBILDGEBUNG MIT MIKROFLUIDISCHER CHIPKONFIGURATION UND DYNAMIK

Title (fr)  
DISPOSITIF À PUCE MICROFLUIDIQUE POUR MESURES DE FORCE OPTIQUE ET IMAGERIE CELLULAIRE UTILISANT UNE CONFIGURATION ET UNE DYNAMIQUE DE PUCE MICROFLUIDIQUE

Publication  
**EP 3728107 A4 20210804 (EN)**

Application  
**EP 17935210 A 20171223**

Priority  
US 2017068373 W 20171223

Abstract (en)  
[origin: WO2019125502A1] A microfluidic chip configuration wherein injection occurs in an upwards vertical direction, and fluid vessels are located below the chip in order to minimize particle settling before and at the analysis portion of the chip's channels. The input and fluid flow up through the bottom of the chip, in one aspect using a manifold, which avoids orthogonal re-orientation of fluid dynamics. The contents of the vial are located below the chip and pumped upwards and vertically directly into the first channel of the chip. A long channel extends from the bottom of the chip to near the top of the chip where it takes a short horizontal turn. The fluid is pumped up to a horizontal analysis portion that is the highest channel/ fluidic point in the chip and thus close to the top of the chip, which results in clearer imaging. A laser may also suspend cells or particles in this channel during analysis.

IPC 8 full level  
**B81B 1/00** (2006.01); **B01L 3/00** (2006.01); **G01N 15/10** (2006.01); **G01N 15/14** (2006.01); **G01N 21/05** (2006.01); **G01N 35/08** (2006.01)

CPC (source: EP GB KR RU)  
**B01L 3/502715** (2013.01 - EP KR); **B01L 3/502761** (2013.01 - EP GB KR); **B81B 1/00** (2013.01 - RU); **G01N 15/1436** (2013.01 - KR); **G01N 15/147** (2013.01 - KR); **G01N 15/1484** (2013.01 - EP GB KR); **G01N 21/05** (2013.01 - RU); **G01N 35/08** (2013.01 - RU); **B01L 2200/0663** (2013.01 - EP GB); **B01L 2200/0668** (2013.01 - EP GB KR); **B01L 2300/0874** (2013.01 - EP GB KR); **B01L 2400/0454** (2013.01 - EP); **B01L 2400/0487** (2013.01 - EP GB KR); **B01L 2400/049** (2013.01 - EP GB KR); **G01N 15/147** (2013.01 - EP GB); **G01N 2015/1006** (2013.01 - EP GB KR)

Citation (search report)

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- See also references of WO 2019125502A1

Designated contracting state (EPC)  
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**WO 2019125502 A1 20190627**; AU 2017443695 A1 20200709; AU 2017443695 B2 20230928; AU 2023286012 A1 20240125; BR 112020012748 A2 20201201; CA 3086498 A1 20190627; CN 111819153 A 20201023; CN 111819153 B 20240830; EP 3728107 A1 20201028; EP 3728107 A4 20210804; GB 202011401 D0 20200909; GB 2584218 A 20201125; JP 2021515239 A 20210617; JP 2024020465 A 20240214; JP 7390305 B2 20231201; KR 102602599 B1 20231116; KR 20200104354 A 20200903; KR 20230157541 A 20231116; MX 2020007182 A 20200824; RU 2764676 C1 20220119; SG 11202005872X A 20200729

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**US 2017068373 W 20171223**; AU 2017443695 A 20171223; AU 2023286012 A 20231227; BR 112020012748 A 20171223; CA 3086498 A 20171223; CN 201780098314 A 20171223; EP 17935210 A 20171223; GB 202011401 A 20171223; JP 2020555013 A 20171223; JP 2023196402 A 20231120; KR 20207021267 A 20171223; KR 20237038767 A 20171223; MX 2020007182 A 20171223; RU 2020120212 A 20171223; SG 11202005872X A 20171223