

平成22年8月6日

各 位

会社名 株式会社エンプラス
代表者名 代表取締役社長 横田 大輔
(コード番号 6961 東証第一部)
TEL. 048-253-3131(代表)

AACC Clinical Lab EXPO 2010 出展のご報告

弊社は2010年7月27日から29日までの3日間、アナハイム(カルフォルニア)で行われた臨床検査機器・試薬の展示会「AACC Clinical Lab EXPO 2010」に出展いたしました。

今回は弊社の成形・アセンブリ技術を集約したマイクロ流路チップのサンプルを展示いたしました。おかげさまで盛況のうちに3日間の会期を終えることができました。お立寄り頂きました多くの皆様には心より御礼を申し上げます。

出展内容に関するご質問などございましたら、お問い合わせいただきますようお願いいたします。

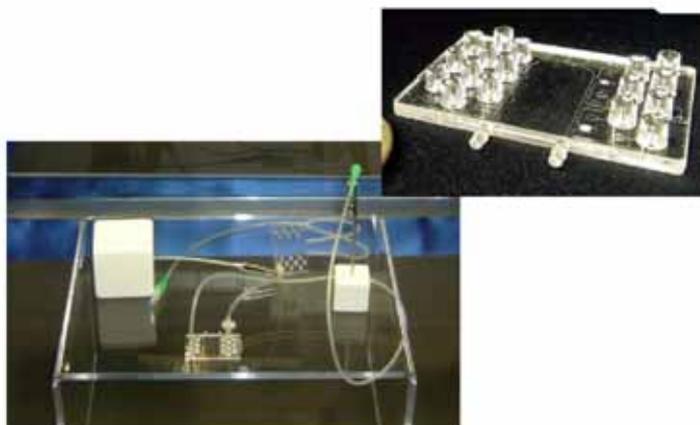


お問い合わせ先

株式会社エンプラス 開発企画部
〒332-0034 埼玉県川口市並木 2-38-5
Tel:048-256-8593 Fax:048-256-8706
Bio-sales@enplas.com
<http://www.enplas.co.jp>



CLINICAL LAB EXPO 2010
July 27-29, 2010
ANAHEIM CONVENTION CENTER, ANAHEIM, CA



以上

Enplas microfluidic chips achieve comparable performance to glass and PDMS chip with

- low background noise fluorescent detection technology
- hydrophilic surface coating technology
- plastic pneumatic valve technology



Low background fluorescent detection

thin detection region
microchannel

thin detection region

microchannel
thin detection region
detect from side direction

thin detection region
long optical path detection due to side detection

- Reducing Auto-Fluorescence by making irradiated volume smaller
- Increasing fluorescent signal by long optical path detection.

-> increasing signal to noise ratio

detection condition : fluorescent microscope (BX51), objective lens (UPlanFI10X), ICCDcamera (gain :10), optical filter (UMWIB2)

Back Ground

Material	Fluorescent Intensity (a.u.)
glass	~45
thick plastic (2 mm)	~55
thin plastic (0.25 mm)	~40

Limit of Detection of FITC

Material	concentration (μmole/l)
glass	~0.15
thick plastic (2 mm)	~0.18
thin plastic (0.25 mm)	~0.05

Background of plastic chip with **thin detection region** has almost same as glass chip

Plastic chip with **thin detection region** and **long optical path side detection** has best detection limit.

contamination protect wall

Furthermore contamination protect wall can prevent background noise due to foreign material.

Hydrophilic surface coating

microchannel

All of inside channel wall can be coated

water
uncoated surface

water
coated surface

Water contact angle

Days	uncoated (deg)	coated (deg)
0	~65	~35
30	~65	~35
60	~65	~35
90	~65	~35
120	~65	~35
150	~65	~35

Surface property has very small aging variation. The coated surface is still hydrophilic after 4 month.

Plastic pneumatic valve

underdevelopment

top channel (pneumatic)

bottom channel (sample)

bottom channel top channel

thin film (10 μm)

Cross section A-A

0 kPa
FITC filled in bottom channel

200 kPa

Fluorescence is high due to film is flat

Fluorescence is low due to film bent with pneumatic operation

Enplas Corporation

2-38-5, Namiki, Kawaguchi City, Saitama 332-0034, Japan

Development Division
E-mail: bio-sales@enplas.com

www.enplas.com

Enplas microfluidic chips provide superior value than glass and PDMS chip with

- combination with additional structures
- side open channels
- various channel forms

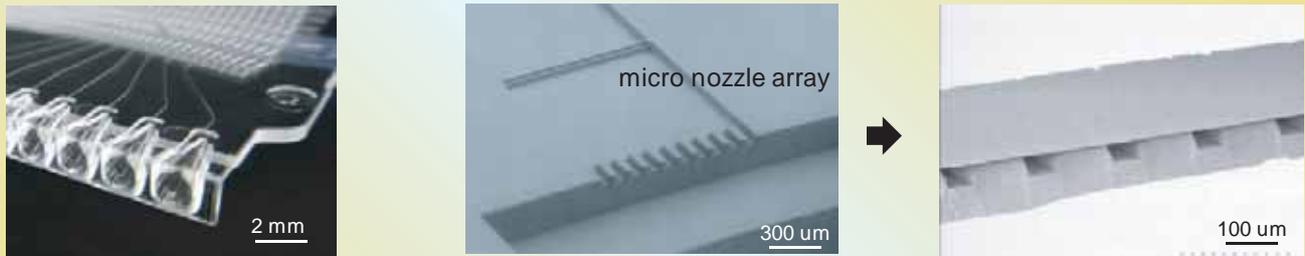


Combination with additional structures



Total cost can be reduced by a single tool product design

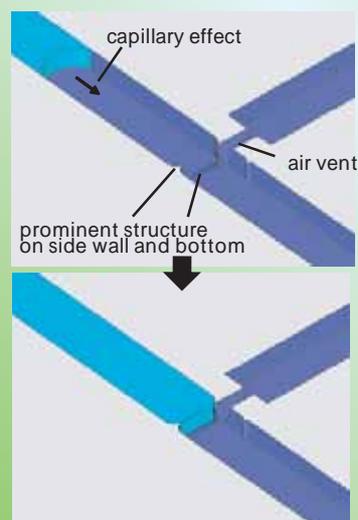
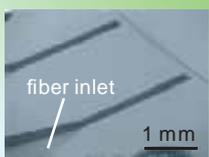
Side open channels



Minimum risk in injection molding.
Suitable for mass production.

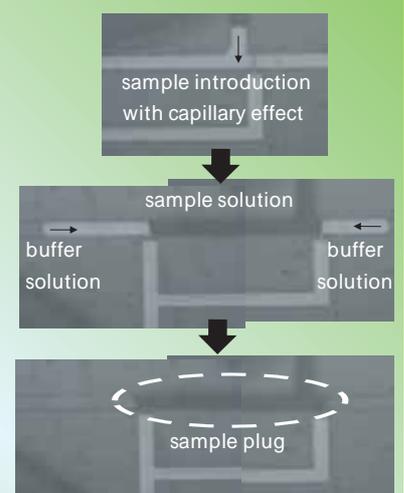
After bonding

Various channel forms



SEM picture of prominent structure and air vent

Liquid can stop because of surface tension



Sample plug formation with combination of stop valve and air vent

Enplas Corporation

2-38-5, Namiki, Kawaguchi City, Saitama 332-0034, Japan

Development Division
E-mail: bio-sales@enplas.com

www.enplas.com