

課題番号 : F-16-KT-0065
利用形態 : 技術代行
利用課題名(日本語) : バクテリア培養のためのマイクロ流路デバイスの作製
Program Title(English) : Microfluidics and microbiology
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1. 概要(Summary)

I have requested the fabrication of chrome masks from Nano-hub in Kyoto University to be used to fabricate the molds for microfluidic devices. Using these masks, I am able to trap bacteria in chambers of $\sim O(1 \mu\text{m})$. We are still gathering data to understand the phenomena that we are observing.

2. 実験(Experimental)

【利用した主な装置】

レーザー直接描画装置
レジスト現像装置

【実験方法】

With the masks made by Kyoto Univ, I prepared wafers (in-house) and did photolithography to make microfluidics molds.

3. 結果と考察(Results and Discussion)

Using the chrome masks from Kyoto Univ., I have been able to fabricate SU-8 molds using photolithography. We have successfully fabricated two-layer devices capable of trapping bacteria in a thin, quasi-2D chamber. Bacteria in this chamber grow normally and we are able to accurately monitor their growth and spatial distribution as they divide and spread.

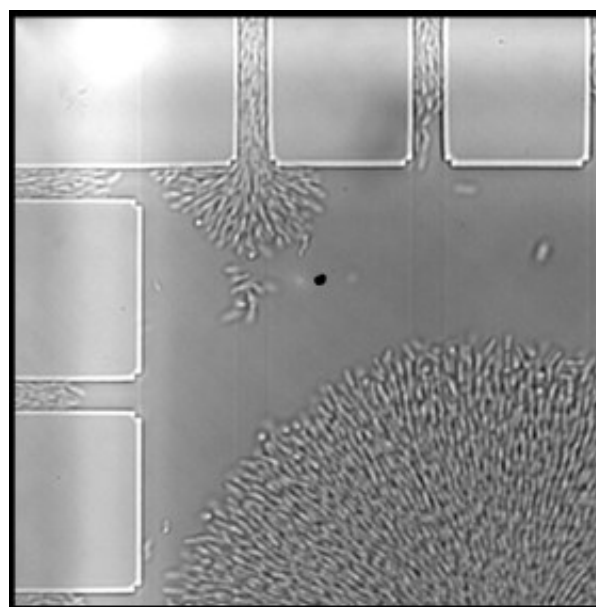


Fig 1 Bacteria growing in a PDMS device replicated from a mold fabricated at Univ. Tsukuba.

4. その他・特記事項(Others)

特になし。

5. 論文・学会発表(Publication/Presentation)

なし。

6. 関連特許(Patent)

なし。