

Technology Licensing Opportunity



Microfluidic gradient generator



MARKET OPPORTUNITY

The microfluidics market is expected to grow at a compound annual growth rate of 22.6% from an estimated USD 10.06 billion in 2018 to USD 27.91 Billion by 2023. The price of microfluidic products are expected to drop with the growing use of polymers and this, in turn, will increase the adoption of microfluidic technologies during the forecast period. In addition to this, other market drivers include favourable regulatory policies, and growing application of microfluidic technology in personalized medicine, organ-on-a-chip, and liquid biopsies; expanding application of microfluidics in drug delivery systems such as insulin pumps and inhalers.

TECHNOLOGY

The technology describes a novel microfluidic platform to engineer complex molecular gradient profiles for directed cellular differentiation. Its detachable, all-polymer cell culture chamber supports cell proliferation and differentiation, and facilitates easy spatial dissection and cellular characterization.

STAGE OF DEVELOPMENT

TRL 5

APPLICATIONS

- Tissue engineering for disease modelling
- High throughput and comprehensive drug screenings
- Patterning for material synthesis

ADVANTAGES

- > 16 fold improvement in molecular gradients over conventional gradient generator
- High mixing efficiency
- Fast and robust response time to dynamic change of the molecular gradient profiles

STATUS

Patent pending. Available for licensing and research collaboration.

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