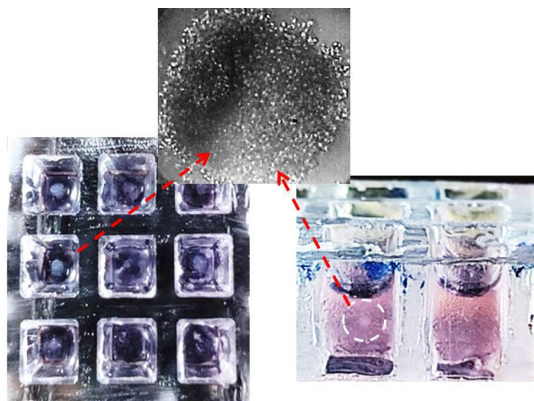


Technology Offer CSIC/ME/020

In vitro synthesis of three-dimensional cell spheres by ultrasound



New procedure for obtaining cell spheroids by ultrasound from cell suspensions for in vitro studies, of special interest in the study of tumors without the need to use in vivo models.

Intellectual Property

Priority patent application filed

Stage of Development

Successfully tested in laboratory

Intended Collaboration

License

Contact

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Market need

The study of tumor processes requires the use of in vitro tissues for a better understanding and to support the development of adequate treatments. Cellular spheroids are the in vitro models that best imitate the characteristics of real tumors, but the state-of-the-art processes for obtaining them still present challenges, being generally lengthy and expensive, partially due to the non-existence of automated synthesis methods. There is therefore a wide margin for improvement with respect to the state of the art with regard to the cultivation of three-dimensional cell spheroids.



CSIC solution

Our proposed solution allows obtaining said spheroids through ultrasound techniques. By adjusting the frequencies and processing times, it has been possible to generate three-dimensional spheroids in a few minutes, departing from cell suspensions. By using conventional ultrasound systems, both costs and cultivation times can be reduced, thus achieving greater efficiency compared to current methods. Its use in the laboratory has been tested with satisfactory results in several projects.

Competitive advantages

- The synthesis method does not require advanced instruments for its use.
- Quick and simple method, to obtain the spheroids in a few minutes.
- The system parameters are easily controllable and adjustable according to needs.
- Due to its speed and efficiency, it is aligned with sustainability objectives.