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Method and Device for forming biologic cell aggregates

Key words: cell aggregates, pharmacology testing

In pharmacology and cosmetics many test are nowadays performed with in vitro cultured cells to evaluate hazardous effects of bioactive substances. Unfortunately all of these 2D systems do not represent biologic tissue and fail to reproduce organ function. For these purposes 3D cell aggregates are superior and they can be sustainable generated from stem cells. By using stem cells from the human organism (adult, embryologic or induced pluripotent stem cells) all pharmacology testings gain more validity and it opens the possibility to even use patient specific stem cells. For high throughput testing the production of cell aggregates had to be automatized, so that many uniform biological specimens will be available.

The Invention

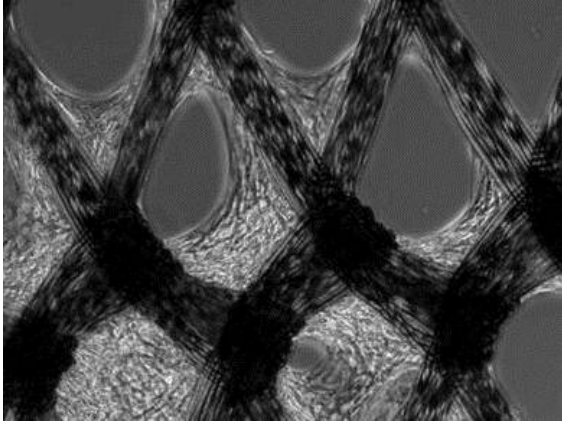
The invention relates to a method for cultivating biologic cells on a substrate having a plurality of substrate openings. Cell aggregates comprising groups of cells can span these openings and are self-supportingly arranged in the substrate openings. A stamping tool can be used to separate the aggregates from the substrate, so that uniform cell aggregates are freed and can be used for further analyses. These biologic cell aggregates are particularly used in high throughput tests with biologically active substances or in methods of tissue engineering.

Market potential

- Pharmacological substance testing
- High throughput testing in cosmetic research
- Tissue engineering for therapeutic strategies

State of Development

Different cell types have been shown to grow on nets by forming cell aggregates spanning the substrate openings. A concept for the stamping device is developed and the construction of a prototype is planned.

**Branch**

Pharma, Cosmetics, Medical technology

Patent situation

Patent granted (DE, EP, US)

Offer

Co-operation, Contract research, License, Sale

Contact

Dr. Sandra Schumann

Phone: +49 451 384448 14

sandra.schumann@emb.fraunhofer.de