

PRESS RELEASE

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CELL&SOFT TECHNOLOGY USED TO STUDY THE MAINTENANCE OF PLURIPOTENCY OF HUMAN INDUCED PLURIPOTENT STEM CELLS (HIPSCS)

CELL&SOFT, IN PARTNERSHIPS WITH RESEARCHERS FROM IBPS, PROVIDE A NEW STANDARD FOR HIPSCS EXPANSION AND MAINTENANCE

Grenoble, France, December 5th 2019 | Cell&Soft co-founders Camille MIGDAL and Alice NICOLAS in partnership with Onnik AGBULUT team (Biological Adaptation and Ageing, Sorbonne Universités, IBPS, UMR CNRS 8256) just published a research article investigating the impact of rigidity on the long-term maintenance of pluripotency in human induced pluripotent stem cells (hiPSCs).

It is well known now that cells cultured in vitro on plastic or glass are very far from physiological environment in terms of rigidity of the support. The authors investigated whether soft substrates can impact on hiSPC expansion and maintenance using polyacrylamide-based culture supports with a rigidity-decoupled surface chemistry, i.e. an identical chemical coating of rh Vitronectin with defined surface density (Mecachips range of products from Cell&Soft).

“Based on the analysis of cellular adhesion, survival, growth kinetics, three-dimensional distribution, gene and protein expressions”, the authors demonstrated optimal conditions to maintain pluripotency and self-renewal capacities of two hiPSCs lines. No drift towards a specific germ line lineage was observed. In addition, on soft substrates, cell colonies grew in 3D and entered germ layer differentiation.

In conclusion, the Cell&Soft technologies and products allow the fine-tune physico-chemical properties of the culture environment to finely direct cell fate, in addition or replacement of soluble growth factors.

Results have been published in ACS Biomaterials Science & Engineering on December 2, 2019 (<https://pubs.acs.org/doi/abs/10.1021/acsbiomaterials.9b01189>)

Cell&Soft

ABOUT CELL&SOFT

Cell&Soft is a French Deep Tech Company based in Grenoble, France. It is a spinoff from the Microelectronics Technologies Laboratory (CNRS) and the Grenoble Biosciences and Biotechnologies Institute (CEA BIG), and was incubated within the Linksium SATT, Grenoble.

Cell&Soft is specialized in the development of cell culture supports made up of synthetic hydrogels reproducing the flexibility of human and animal tissues. For the first time, physiological stiffness supports combine unprecedented control of mechanical properties at the micrometric scale with independent control of surface chemistry. Cell&Soft supports thus offer an in vitro culture environment with robust chemo-mechanical characteristics, which support long cultures without degradation or modification of their physico-properties. Standard biochemical and cellular analysis procedures remain unchanged. The supports are available in 10 stiffnesses, 5 surface chemistries and 6 formats (from BP35 to p96).

Cell&Soft is a Deep Tech Pioneer



Cell&Soft has been named one of Hello Tomorrow's Deep Tech Pioneers, selected among more than 5.000 startups from 128 different countries that applied to the Global Challenge. You can meet the company at the Hello Tomorrow Global Summit in Paris on 12th-13th March 2020.

<https://hello-tomorrow.org/summit/>

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