Special Issue

In Vitro 2.0—Improving the Cell Culture Environment for Biology

Message from the Guest Editor

In vitro studies are still the basis for biological research. Although scientists have considered static culture in plastic bottles as the gold standard of in vitro studies for decades, a better understanding of molecular biological processes and the presence of new technologies (microfluidics, tissue engineering, advanced bioreactors, bioprinting, etc.) are leading to an optimization of in vitro cell cultures that allow for more reliable data required for the prediction of biological effects in organisms. The ability to grow and change in a defined manner in response to various stimuli is one of the most remarkable properties of cells. It plays an important role in morphogenesis during development and in homeostasis and pathogenesis in adult tissues, which often adapt to changes in their mechanochemical environment due to aging, disease, or injury. We have now reached a point where we can offer customized cell culture conditions for specific research purposes. With this Special Issue, we would like to review the status quo of cell culture science, the latest findings, and improved approaches from which we can all benefit.

Guest Editor

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