Researchers create Cyborg Cells—natural-artificial cell hybrids

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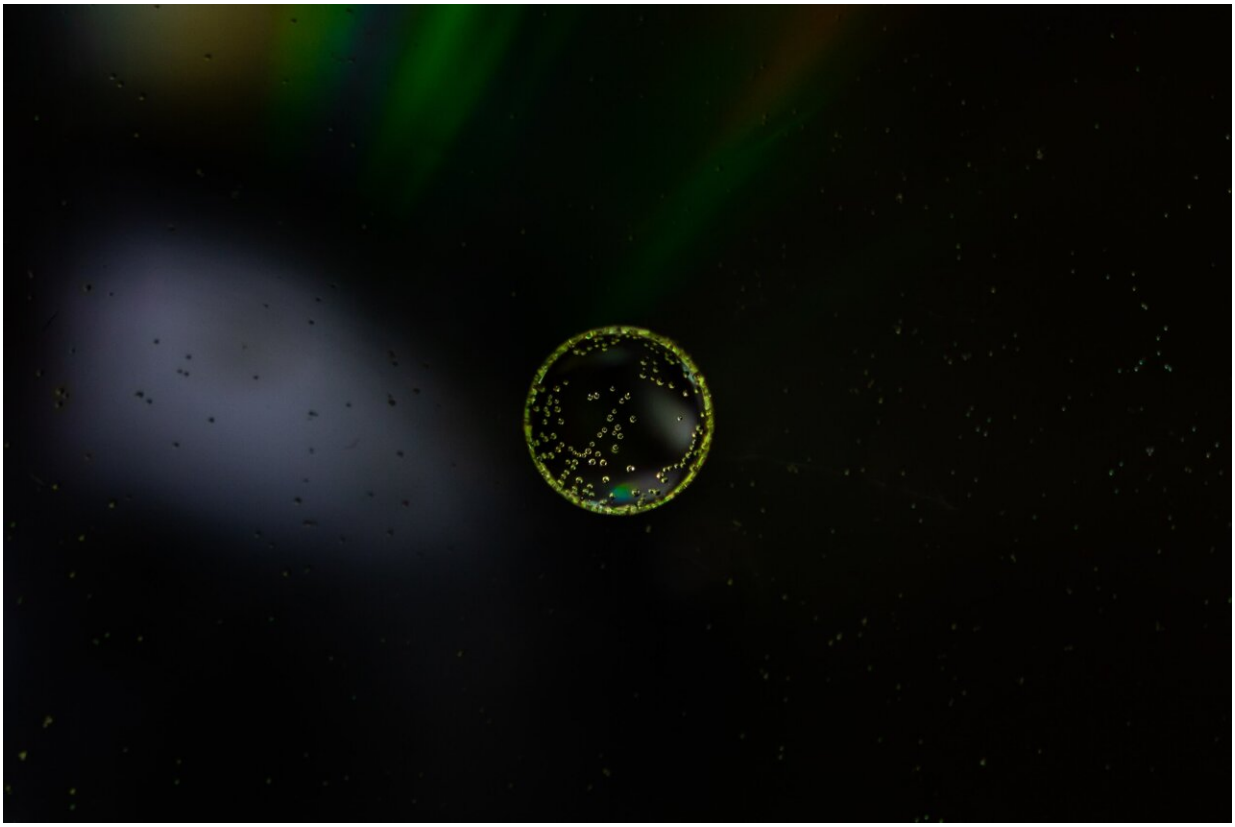

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Natural and artificial cells are useful for research, with each having different pros and cons. In research published in *Advanced Science*, investigators recently created a hybrid called Cyborg Cells that have the

engineering simplicity of synthetic materials and the complex functionalities of natural cells.

To create Cyborg Cells, scientists assembled a synthetic polymer network inside bacterial cells, rendering them incapable of dividing. Cyborg Cells preserved essential cell functions but also acquired new abilities to resist stressors that otherwise kill natural cells.

Experiments revealed that Cyborg Cells could be modified to invade cancer cells, thereby demonstrating their therapeutic potential.

"The Cyborg Cells demonstrate the power of synthetic biology in combining natural cells and synthetic materials," said co-author Jack Hu, Ph.D., of Academia Sinica. "We are excited about the potential applications of the Cyborg Cells to solve environmental challenges, diagnose or treat diseases, and modulate disrupted microbiota," added co-author Cheemeng Tan, Ph.D., of the University of California, Davis.

More information: Engineering Cyborg Bacteria Through Intracellular Hydrogelation, *Advanced Science* (2023). DOI: 10.1002/advs.202204175

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