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CELL-SIZED ROBOTS CAN BE USED TO DETECT DISEASES

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The robots are called “syncells”, short for synthetic cells. | Photo Credit: Getty Images/iStockphoto

MIT scientists have developed a method to mass produce robots no bigger than a cell that could be used to monitor conditions inside an oil or gas pipeline, or to search out disease while floating through the bloodstream.

The key to making such tiny devices, which the team calls “syncells” (short for synthetic cells), in large quantities lies in controlling the natural fracturing process of atomically-thin, brittle materials.

The process, called “autoperforation”, directs the fracture lines so that they produce miniscule pockets of a predictable size and shape. Embedded inside these pockets are electronic circuits and materials that can collect data, according to a study published in the journal *Nature Materials*.

The system, developed by researchers at the Massachusetts Institute of Technology in the U.S., uses a two-dimensional form of carbon called graphene, which forms the outer structure of the tiny syncells.

These tiny objects “behave like a living biological cell”, said Michael Strano, a professor at MIT.

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