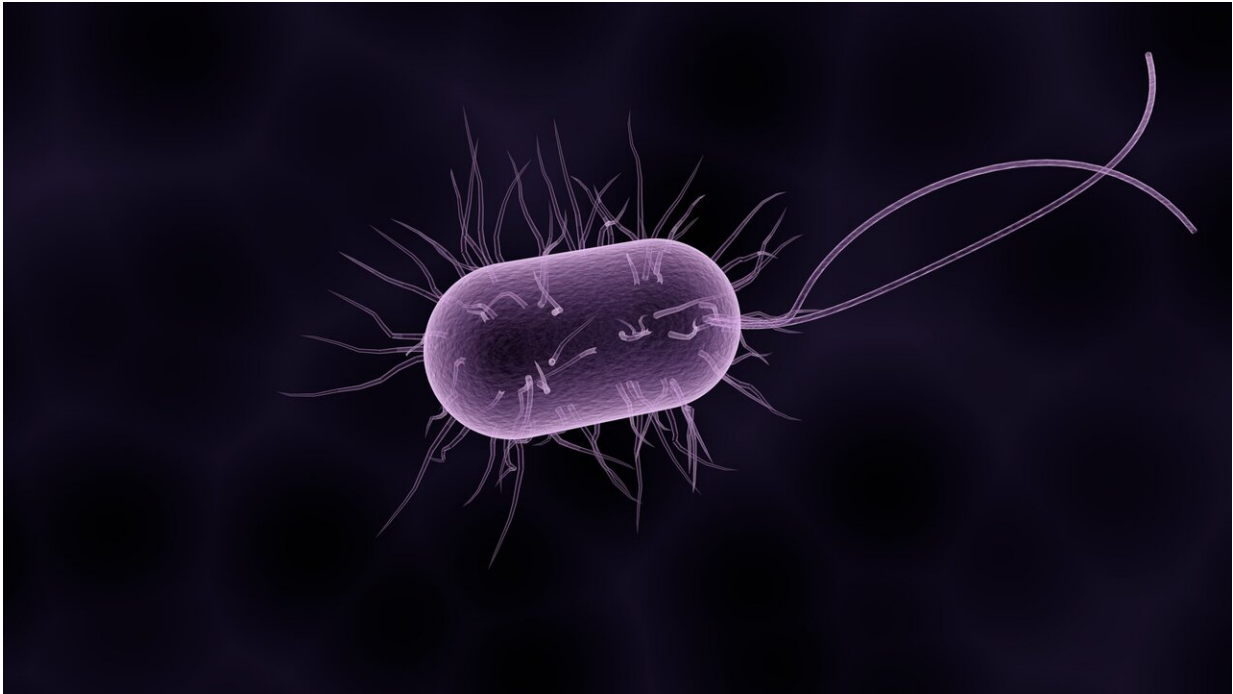


'Scrambled' cells fix themselves

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Human cells have a defense mechanism that protects them from microbial attacks, a Canadian-led team of international researchers has discovered.

When [microbes](#) enter our body, they liberate toxins that can damage cells by poking holes in the external cell layer. To defend themselves from the intrusion, cells scramble their membrane fat (lipid) into a more

[liquid form](#) that allows them to fix the holes, the research team found.

Those repairs prevent the cells from breaking up and dying.

Led by André Veillette, an Université de Montréal medical professor and researcher at the Montreal Clinical Research Institute (IRCM), the discovery was recently published in *Cell Reports*.

"Our body is very clever," said Veillette. "Some microbes cause diseases by punching holes in the external layer of cells and killing these cells. But our body has the ability to repair these holes. We have identified a molecule, known as TMEM16F, that can repair the holes and prevent the cells from dying."

The researchers hope that by stimulating the scrambling of cell fat with [new drugs](#), they may help to protect humans from some microbes such as listeria, which causes severe diarrhea, and streptococcus, which can trigger destruction of blood cells.

More information: Ning Wu et al, Critical Role of Lipid Scramblase TMEM16F in Phosphatidylserine Exposure and Repair of Plasma Membrane after Pore Formation, *Cell Reports* (2020). [DOI: 10.1016/j.celrep.2019.12.066](#)

Provided by University of Montreal

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