

ARTICLE ELEMENTS

- A. Trending Category
- B. Social Sharing Options
- C. Article Title: 60 characters max.
- D. Sponsored By Attribution
- E. Member Interaction: Likes, Shares, Comments
- F. Article: < 600 words recommended
- G. Featured Image: 1200x600 pixels
- H. Article Images: > 700px wide
- I. Article Videos: YouTube Embeds
- J. Source Links: Optional
- K. Company Attribution

Trending > Microbiology **A**

MAY 28, 2019 03:44 PM PDT

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Cranberry Extract Increased the Vulnerability of Bacteria to Antibiotics **C**

SPONSORED BY: Science Laboratory **D**

Heart Comment **E**

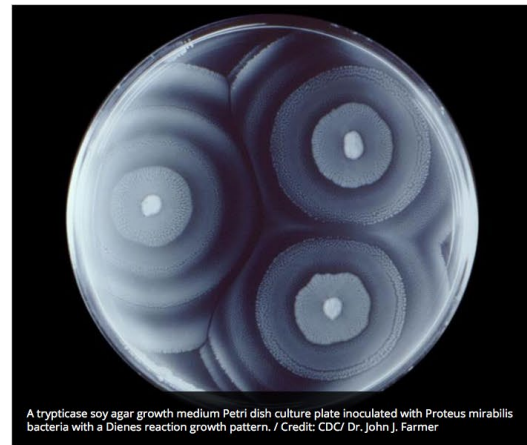
Because of the **misuse and overuse of antibiotics**, and the **ease with which bacteria share genes** (among other reasons), antibiotics aren't working as well as they used to, which has been called a **global health crisis**. Common pathogens are becoming increasingly resistant to standard antibiotics (learn more from the video). While drug developers have been trying to create new antibiotics, it may also be possible to fight drug-resistant pathogens by making them more susceptible to antibiotics. Researchers have now found that molecules extracted from cranberries made pathogenic microbes more sensitive to antibiotics, and at lower doses. The bacteria did not become resistant to the microbes during the tests either. **F**



"Normally when we treat bacteria with an antibiotic in the lab, the bacteria eventually acquire resistance over time," explained Nathalie Tufenkij, a McGill chemical engineering professor. Tufenkij was the lead author of a **report on the findings in Advanced Sciences**. "But when we simultaneously treated the bacteria with an antibiotic and the cranberry extract, no resistance developed. We were very surprised by this, and we see it as an important opportunity."

In this work, the scientists took inspiration from those who drink cranberry juice to stave off urinary tract infections. The three bacteria they used in their experiments cause common infections; cause urinary tract infections; *Pseudomonas aeruginosa* is to blame for pneumonia; gastroenteritis can come from *Escherichia coli*. The scientists found that cranberry extract made the bacterial cell wall more porous. It also disrupted a pump that removes antibiotics from the bacterial cell. The extract made it easier for antibiotics to get into the bacteria, and less likely that the drug would be pumped out.

"These are really exciting results," said coauthor Éric Déziel, a professor of microbiology at Institut national de la recherche scientifique. "The activity is generated by molecules called proanthocyanidins. There are several different kinds of proanthocyanidins, and they may work together to deliver this outcome. We'll need to do more research to determine which ones are most active in synergy with the antibiotic."



The researchers tested the cranberry extract on bacteria growing in culture first and then moved to a model of infection using fruit flies. The results were confirmed in the model; the antibiotics were more effective in the presence of cranberry extract. More work will, of course, be needed to ensure that the same effect will be seen in people, but the preliminary results are promising.

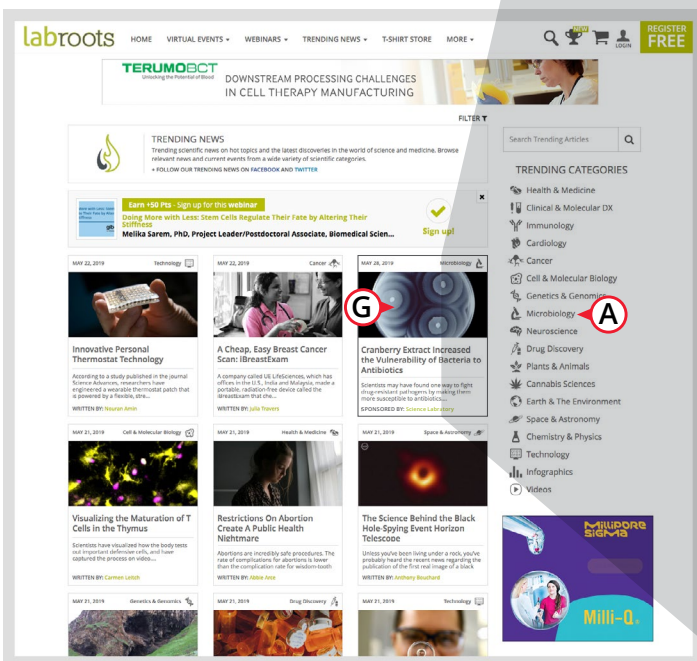
"We are eager to pursue this research further," Tufenkij said. "Our hope is to reduce the doses of antibiotics required in human and veterinary medicine as part of efforts to combat antibiotic resistance."

Sources: AAAS/EurekaAlert! via McGill University, Advanced Sciences **J**

About the Company

Science Laboratory **K**

Science Laboratory is a special facility where experiments are done and inspired by new, participatory approaches to science and innovation and relies on user-centred design methods and concepts.



What You Need To Provide

- Article:
 - < 600 words recommended
 - A well-written and high-quality article relevant to the LabRoots Audience.
 - This piece should be engaging, shareable, trustworthy, and cannot be promotional in nature
- Images:
 - A Featured Image that is 1200x600 pixels in size
 - Article Images: ideal width is 835 pixels to fill the article page (> 700 pixels is suggested)
 - Images with copyright permission. Royalty free images can be found on sites such as Pixabay.com, Pexels.com
- Categories:
 - Assigned Trending Category
 - Plus 2 additional relevant Trending Categories (if applicable)
- Tags:
 - 10 (be mindful of which tags are used)
 - See [Audience Selection Form](#)
- Company Information:
 - A company profile image (300x300 pixels)
 - A company bio
 - Company social media links (if preferred)

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- We will create a sponsor user account on your behalf
- We will review the content including the writing, the imagery, etc.
- We will upload the sponsored content/article and coordinate an approval after having set everything up
- Once approved, content will be posted during your suggested date/time
- The content will be shared on relevant social media pages
- Content will be shared within relevant LabRoots' newsletters

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- Links to social media posts
- Schedule for Newsletters that included the sponsored content

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- 1200x600 pixels
 - Appears on [Trending News](#) webpage
- File name or link:
-

Article Image

- > 700 pixels in width
 - Appears within the article, [Example](#)
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-

Video

- Must be a YouTube Embed
 - Appears within the article, [Example](#)
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Company Logo

- > 300x300 pixels
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Sponsored By: _____

Article Title

- 60 characters max.

Article Text

- < 600 words recommended
- If utilizing linked words, **a word document is recommended**

Article Summary for Social Media

- 280 characters max.

Company Information

- 450 characters max.

- Social Media links:
Facebook: _____
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