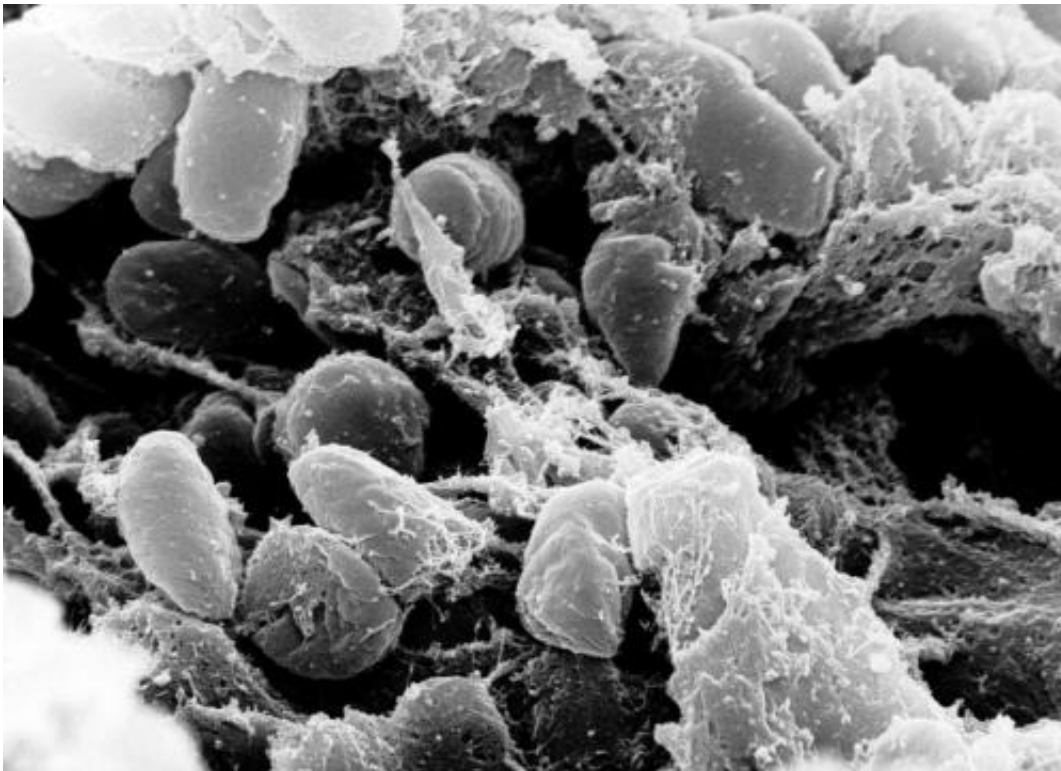


# Researchers engineer dual vaccine against anthrax and plague

October 16 2018

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A scanning electron microscope micrograph depicting a mass of *Yersinia pestis* bacteria in the foregut of an infected flea. Credit: Wikipedia

A team of researchers has now engineered a virus nanoparticle vaccine against *Bacillus anthracis* and *Yersinia pestis*, tier 1 agents that pose serious threats to national security of the United States.

*B. anthracis* and *Y. pestis* are the pathogens that cause anthrax and plague, respectively. Using bacteriophage T4, the scientists developed the vaccine by incorporating key antigens of both *B. anthracis* and *Y. pestis* into one formulation.

Two doses of this vaccine provided complete protection against both inhalational anthrax and pneumonic plague in animal models. Even when animals were threatened with lethal doses of both anthrax lethal toxin and *Y. pestis* CO92 bacteria, the vaccine was shown to be effective. The study is published in *mBio*, an open-access journal of the American Society for Microbiology.

"This dual anthrax-plague vaccine is a strong candidate for stockpiling against a potential bioterror attack involving either one or both of these biothreat agents," the researchers noted in the study. Their results demonstrate that T4 nanoparticle is a novel platform for developing multivalent vaccines against pathogens of high public health concern.

Provided by American Society for Microbiology

Citation: Researchers engineer dual vaccine against anthrax and plague (2018, October 16)  
retrieved 17 April 2024 from

<https://medicalxpress.com/news/2018-10-dual-vaccine-anthrax-plague.html>

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