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Antibacterial cocktail: St. Petersburg scientists called on flies to help fight microbes

11:44 ,
14 JUNE 2018

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0:00 / 3:07

Biologists from St. Petersburg have found a way to increase the effectiveness of antibiotics in the fight against the most dangerous microbes. In 80 percent of cases, chronic ulcers and wounds do not heal because bacteria have become resistant to powerful drugs. So scientists started looking for new drugs. How far the best minds of St. Petersburg have reached, will tell the correspondent of the TV channel "St. Petersburg" Dmitry Pavlov.

The war against superbugs has yet to be won, but biologists are on the offensive. The front line runs in the scientific laboratory of the St. Petersburg State University. The battlefield is glass under a microscope. The battle of cells with microbes on it was displayed on the monitor.

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DMITRY TULIN, Research Engineer, Laboratory of Biopharmacology and Immunology of Insects, St. Petersburg State University:

“This is what the cell looks like separately. Small fragment. The tendrils are pulled out. The moment is active. And they are able to build such huge monstrous formations in which they entangle bacteria. By the way, the bacteria got caught. Live bacteria have been successfully caught. "

The owner of the most powerful antibacterial weapon is a fly. The insect, which was considered a carrier of infection, suddenly became a human ally in the fight against infections. The idea of cooperation with Tsokatukha microbiologists at St. Petersburg State University was prompted by the lifestyle of her offspring.

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DMITRY PAVLOV, correspondent:

“In nature, the larvae of common blowflies live in total unsanitary conditions along with billions of bacteria. The question arose: why microbes do not kill insects. To answer this question, SPbU scientists raised a large number of maggots, took their blood and started research. "

The clear liquid in the test tube is the blood of the larva. In it, scientists have discovered a substance that destroys the most dangerous microorganisms. True, for this maggot it was necessary to infect itself.

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ANDREY YAKOVLEV: Researcher, Laboratory of Biopharmacology and Immunology of Insects, St. Petersburg State University:

“Normally, the larvae do not have these substances in their blood. They are produced only in response to infection by microorganisms. It takes a day. We use E.coli for this purpose, which is sold for baby food. She's safe. "

The extract produced by the larvae turned out to be not just striking, armor-piercing. Able to break through the biofilm that covers microbes to resist antibiotics.

St. Petersburg State University declares: the combination of expired drugs with a mixture of maggots will make many drugs effective again.

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SERGEY CHERNYSH, Head of the Laboratory of Biopharmacology and Immunology of Insects, St. Petersburg State University:

“There is a double benefit here: we can radically reduce the dose of the antibiotic and we can reduce the dose of the drug, which is very important from an economic point of view. Because no matter how hard we try, this thing will be expensive compared to antibiotics, which are produced in tons and formulations. "

An equally difficult task lies ahead: to introduce a new medical technology into medicine itself. This area is conservative, doctors do not like to change standards. However, St. Petersburg scientists believe that the antibacterial cocktail they have invented is a real chance to avoid a return to the dark ages.

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