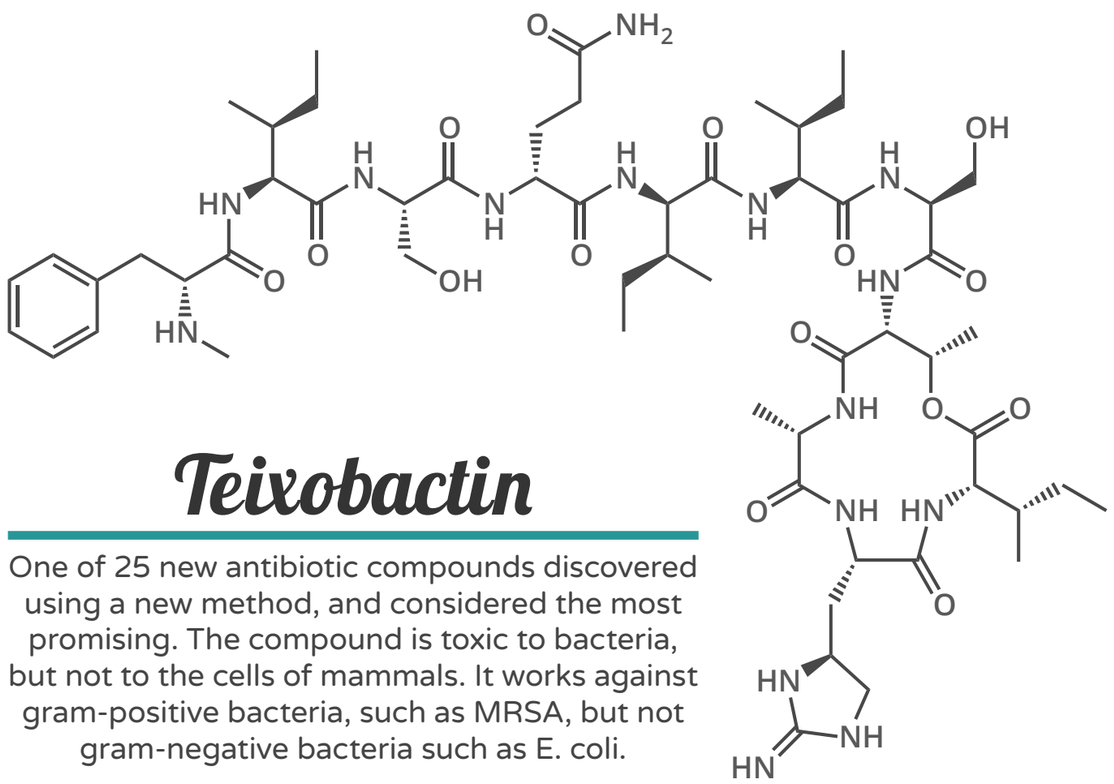
TEIXOBACTIN - A NEW ANTIBIOTIC

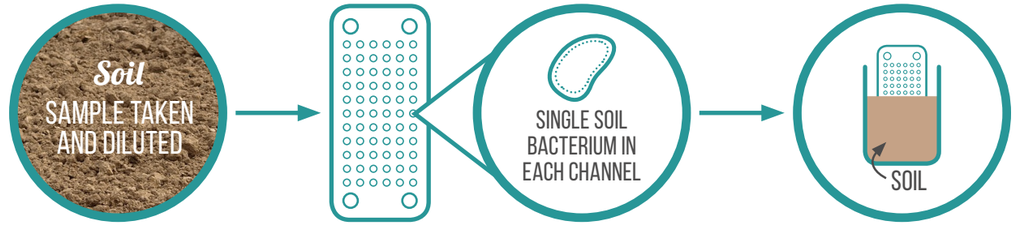
Teixobactin is the first member of a new class of antibiotics - and, more importantly, the method used to discover it could lead to many more.



Teixobactin

One of 25 new antibiotic compounds discovered using a new method, and considered the most promising. The compound is toxic to bacteria, but not to the cells of mammals. It works against gram-positive bacteria, such as MRSA, but not gram-negative bacteria such as E. coli.

HOW TEIXOBACTIN WAS DISCOVERED



A DEVICE REFERRED TO BY RESEARCHERS AS THE 'iCHIP' WAS USED TO CULTURE SOIL BACTERIA ALLOWING NUTRIENTS & SIGNAL MOLECULES TO PASS TO THE BACTERIA & STIMULATE GROWTH.

Bacteria themselves produce antibacterial compounds to kill off competing bacteria, but 99% of these bacteria cannot be grown in a lab. The discovery of teixobactin is actually less important than the method used to discover it; researchers used a device that allowed them to dilute the bacteria-containing soil samples, sandwich them between two semi-permeable membranes, then immerse them in soil, allowing the bacteria to be grown in the lab; a method which could eventually lead to many more potential antibiotic candidates.

HOW TEIXOBACTIN WORKS

Teixobactin has a unique mechanism of action, targeting lipid molecules bacteria use to build their cell walls. As it's hard for bacteria to alter these molecules, it's expected to take much longer for resistance to develop.

LIMITATIONS OF TEIXOBACTIN

Teixobactin human trials are yet to begin; approval could take several years. It doesn't work against bacteria with an extra membrane around their cell wall.