

Old antibiotic is finally synthesized

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The need for new antibiotics to combat multi-drug resistant bacteria has led U.S. chemists to the first synthesis of a potentially valuable antibiotic.

Daniel Kahne and colleagues at Harvard University report the first total synthesis of the antibiotic moenomycin -- a drug that has been sidelined from clinical use for 40 years.

Moenomycin is a broad-spectrum antibiotic with strong antibacterial activity against a large group of bacteria that cause pneumonia, urinary tract infections, gastritis, stomach ulcers, food poisoning and other disorders. Moenomycin also kills bacteria in an unusual way -- it binds directly to enzymes that bacteria need to form a cell wall.

Although used as a growth promoter in animals, moenomycin has never been developed for medical use in humans because it is poorly absorbed into the body. Kahne says discovery of a method to synthesize moenomycin is important because it will allow scientists to better understand the antibiotic and make variants of the natural antibiotic that may be suitable for medical use.

The research appeared in the Nov. 15 issue of the *Journal of the American Chemical Society*.

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