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Compounds active against MERS coronavirus found

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Screen of existing drugs finds compounds active against MERS coronavirus

Clinicians treating patients suffering from Middle East respiratory syndrome (MERS) currently have no drugs specifically targeted to the MERS coronavirus (MERS-CoV), a virus first detected in humans in 2012 that has since caused 614 laboratory-confirmed infections, including 181 that were fatal, according to the World Health Organization. The case count escalated sharply in the spring of this year, and the first cases in the United States were announced in early May. To address the urgent need for therapies, researchers supported by the National Institutes of Health screened a set of 290 compounds already approved by the U.S. Food and Drug Administration or far advanced in clinical development for other indications to determine if any might also show potential for working against MERS-CoV.

From the group of 290 compounds, the scientists identified 27 that, in test tube experiments, showed activity against both MERS-CoV and the related SARS coronavirus. These included compounds that inhibited the viruses' ability to enter and infect cells. The active compounds belong to 13 different classes of pharmaceuticals, including drugs normally used to treat cancer and psychiatric conditions, and provide leads for continued study in animals and potentially for study in people.

"Given development times and manufacturing requirements for new products, repurposing of existing drugs is likely the only solution for outbreaks due to emerging viruses," the investigators noted in the paper, published in the Antimicrobial Agents and Chemotherapy journal. The research was a collaboration between investigators at the National Institute of Allergy and Infectious Diseases (NIAID), a part of the National Institutes of Health, and Dr Matthew B Frieman, PhD of the University of Maryland School of Medicine in Baltimore.