Research team finds new dual benefit mode of action for a drug candidate to fight COVID-19

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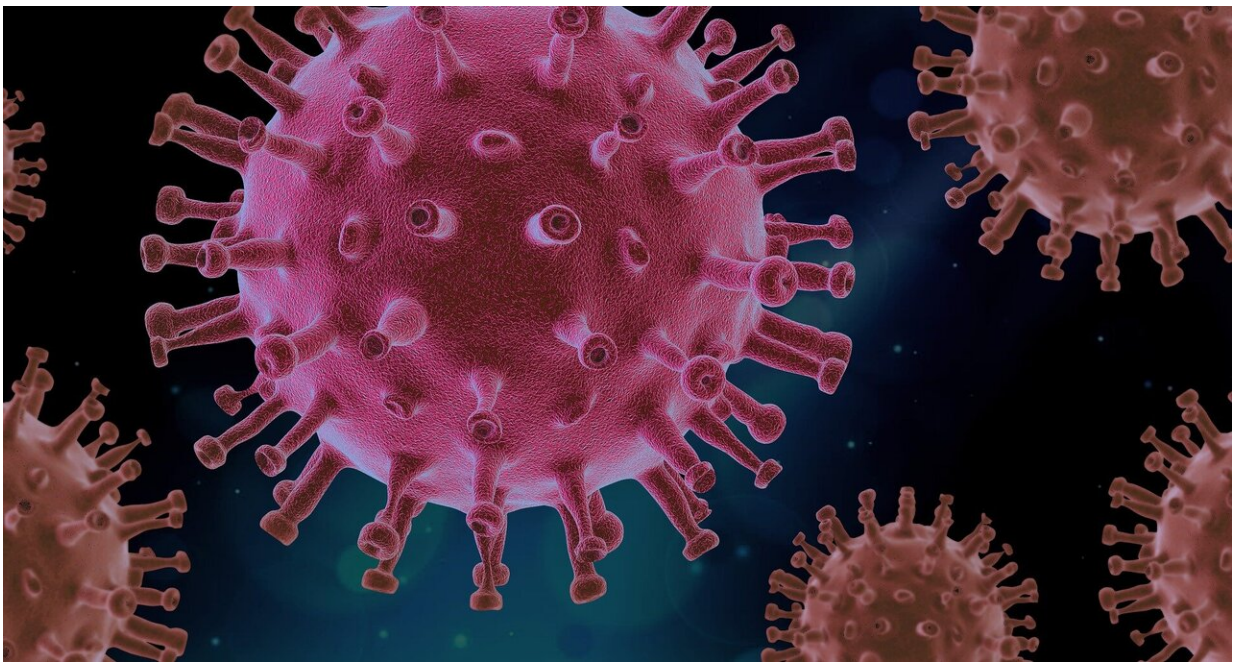

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A research team led by Prof. Stephan Ludwig, a virologist at the Institute of Virology at the University of Münster, has found a new dual attack mode of action while working on the development of a drug candidate against SARS-CoV-2 infections. This could constitute the basis for a broadly effective drug to fight COVID-19. The data, which have now

been published in the journal *Cellular and Molecular Life Sciences*, provided the basis for the approval issued by the German Institute of Drugs and Medicinal Products for a clinical study currently being worked on.

The drug can not only inhibit the proliferation of SARS-CoV-2 viruses in cells, but also reduce the exaggerated immune response which represents a serious problem in severe cases of COVID. "In the results we have published, we have been able for the first time to show such a dual action for an anti-COVID-19 agent," explains Stephan Ludwig, who has overall responsibility for the research work. The team is collaborating with researchers at the Universities of Würzburg and Tübingen, the German Primate Centre in Göttingen, and the 'Atriva Therapeutics' start-up established by scientists of the Universities of Münster, Tübingen and Gießen.

The active agent in question, called Zapnometinib or ATR-002, which was originally under development as anti-flu medication, was effective in a variety of cell culture models—including activity against all tested variants of SARS-CoV-2, which also implies a broad applicability in facing up to any coming variants in the future. Animal testing to confirm these findings are currently under-way. "Positive results from the still ongoing clinical study in humans might already lead to an emergency approval this year for a new, broadly effective COVID-19 medication. The benefit is clear," says Stephan Ludwig.

More information: André Schreiber et al, The MEK1/2-inhibitor ATR-002 efficiently blocks SARS-CoV-2 propagation and alleviates pro-inflammatory cytokine/chemokine responses, *Cellular and Molecular Life Sciences* (2022). DOI: 10.1007/s00018-021-04085-1

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