

# New drug combination may improve cold sore treatment

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Research from Kent's School of Biosciences and the Goethe-University Frankfurt am Main, has found a drug combination that may improve treatment for diseases caused by herpes simplex viruses such as cold sore, genital herpes, and keratitis.

The research is published in *Frontiers in Microbiology*.

Researchers tested different drugs on [cell cultures](#) and found that drugs used to treat heartburn (known as [proton pump inhibitors](#), including the well-known omeprazole) improve the effectiveness of the anti-viral acyclovir, the most commonly used drug for herpes [simplex virus](#)-associated diseases.

Whilst cold sore and [genital herpes](#) are associated with significant discomfort, herpes simplex keratitis is a major cause of blindness in developed countries. For individuals with a suppressed immune system, herpes simplex viruses cause life-threatening conditions.

Led by Professor Martin Michaelis (School of Biosciences, University of Kent) and Professor Jindrich Cinatl (Institute of Medical Virology, Goethe-University), researchers tested heartburn treatment drugs with the anti-viral drug acyclovir.

When these were combined, they significantly decreased viral spreading throughout cells. Out of heartburn drugs used, omeprazole showed the greatest effect.

Professor Martin Michaelis of the University of Kent said: "Combining these two drugs could vastly improve the broader treatment of herpes simplex virus. The importance of the effect of this research reaches from the minor to the life-saving and we look forward to seeing where this next leads."

The paper, "Omeprazole increases the efficacy of acyclovir against herpes simplex virus type 1 and 2," is published in *Frontiers in Microbiology*.

**More information:** Martin Michaelis et al. Omeprazole Increases the Efficacy of Acyclovir Against Herpes Simplex Virus Type 1 and 2, *Frontiers in Microbiology* (2019). [DOI: 10.3389/fmicb.2019.02790](#)

Provided by University of Kent

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