

The flavonoid Tiliroside demonstrates antiviral potential against influenzavirus by interfering with the viral entry into the host cell

Inhalt

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Viral infections, such as influenza, are a major cause of respiratory disease worldwide with high morbidity/mortality and enormous costs. Because influenza vaccination success is not always present and less than 25% of the population is effectively protected by influenza vaccine, antiviral therapy is an essential tool for controlling influenza viral infection. At present, specific and licensed antiviral drugs are broadly available against influenza virus from only one class of drugs (neuraminidase inhibitors). Their general effectiveness is discussed controversially. Their prophylactic use is limited due to possible side effects and resistance. Therefore, there is a clear and unmet need for antiviral drugs to treat or prevent influenza virus infections.

We were able to show that an extract of the gray-haired rockrose plant is antiviral against influenza and rhinoviruses. The mechanism of action is based on the extract preventing the virus from entering the cell. Furthermore, we succeeded in characterizing the herbal ingredient responsible for the antiviral effect. It is the flavonoid tiliroside. We were able to demonstrate the antiviral activity of tiliroside against influenzavirus alone and in combination with MEK-inhibitors. Time of addition experiments were performed to scrutinize the mode of action. Furthermore, EC₅₀ values show the antiviral potential of tiliroside.

Based on our results so far, we see great potential to advance the preclinical development of tiliroside. The next steps will be pharmacokinetic and antiviral activity investigations in mice.

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