

New tri-substituted tetrahydrofurans and their use as antivirals for coronavirus infections

CSIC and the University of Valencia have developed new compounds that can be used as antivirals in the treatment and prevention of coronavirus infections and more particularly SARS-CoV-2 infection. These new compounds that inventors have synthesized can represent a new, safe, effective treatment for COVID-19 patients.

Industrial partners from the pharmaceutical industry are being sought to collaborate through a patent licence agreement.

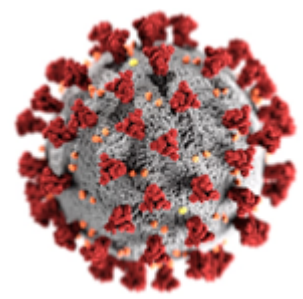
An offer for Patent Licensing

New compounds against SARS-CoV-2 infections

Type-2 coronavirus causing severe acute respiratory syndrome (SARS-CoV-2) is the causative agent of COVID-19. The emergence of this virus at the end of 2019 has posed a huge biomedical challenge.

Due to the need for safe and effective antiviral agents with a wide-spectrum of anti-viral activity, especially against coronaviruses, these new compounds could be useful as antiviral agents and, more particularly, against coronavirus infections.

The inventors have discovered tri-substituted tetrahydrofurans, which are active compounds against coronaviruses in vitro, specifically of the species TGEV, MHV, HCoV-OC43 y SARS-CoV-2. These new compounds that they have synthesized could give rise to a new family of antivirals and can be useful in the treatment of coronavirus infections, specifically of SARS-CoV-2.



Coronavirus SARS-CoV-2

Main innovations and advantages

- Completely new compounds that have not been previously described and are not known to have antiviral activity.
- In their assays, they have tested the antiviral activity against SARS-CoV-2 in two in vitro models of VeroE6 monkey kidney cells and A549 human lung cells.
- No cytotoxic effects associated to these compounds were observed in vitro. In their assays, the cell lines abovementioned infected with SARS-CoV-2, show an EC50 of 27.5 μ M in VeroE6 y 12.9 μ M in A549, and a CC50 >50 μ M in both cell lines.
- Useful for treating diseases caused by coronaviruses and, potentially, other human or animal viruses.
- A major potential application could be the treatment of COVID-19.
- The pharmaceutical compositions of this invention can be used on their own or jointly with other drugs to provide combined therapy.

Patent Status

Priority patent application filed suitable for international extension

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