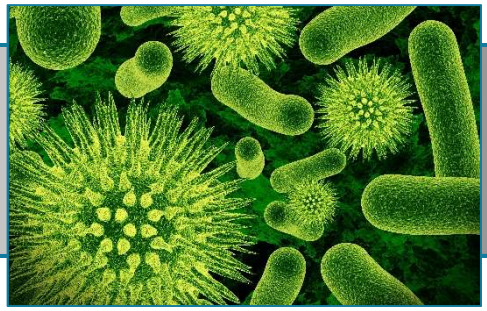
TECHNO OFFER

Broad spectrum antivirals against dsDNA viruses

corrole / antiviral / dsDNA virus / herpes virus / poxvirus / infection / treatment / resistant strain



CONTEXT

Contrary to bacterial infection that can be treated with various antibiotics, viral infection treatments are limited.
Even if several treatments have been developed for specific virus infection, broad spectrum antivirals have not been developed yet. Also, viruses are known to adapt to treatment and develop resistance, leading to therapeutic failure. Therefore, there is a constant need for new generation of first- or best-in-class molecules that can be positioned in first line treatment or in combination with pre-existing therapies.

DESCRIPTION

A collection of 50 antiviral corrole-based molecules has been synthesized and tested on a line of human and animal viruses (hCMV, HSV1, VACV, LSDV, MYXV).
Some of these compounds display selectivity index of around 500 and good PK profile. No acute toxicity has been detected *in vivo*.
In vitro, these compounds show good efficacy when used alone and some also display synergistic action with gold standard and are active on resistant strains (clinical hCMV Letermovir and Ganciclovir Resistant strain).
In vivo studies on rabbits infected with Myxoma virus show symptoms delay and animal weight increase upon treatment.
These molecules are also easy to synthesize in a one to two step reaction. Upscaling production up to 25g is available.

COMPETITIVE ADVANTAGES

- **Broad spectrum activity**
- **Activity on resistant strains**
- **Antiviral synergistic action with gold standard**
- **Easy synthesis and available upscaling**

Markets & applications

Pharmaceutical - human & animal antivirals:

- Treatment of Pox and Herpes viruses infections
- Antiviral for oncolytic viruses
- Biodefense

Development stage

***In vitro* activity demonstrated on pox and herpes viruses infected cells –**
In vivo study performed on Myxoma virus

Research team

UMR CNRS 6302 - Institute of Molecular Chemistry of the University of Burgundy (ICMUB)

Intellectual property

Two patent applications (2017, November) : national phases in Europe, US and Japan

Target partnership

Patent licensing

CONTACT-US

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