



Prevention and Treatment of Viral Infections with **Nanoparticles Capped with Functional Groups**



The Problem

Viral infections continuously take place and pose major public health treats; yet, their prevention and treatment modalities are limited while emerging resistant viruses call for the development of alternative treatments.



The Solution

We developed a novel approach for the prevention and treatment of infections caused by viruses which attach cells via heparan sulfate binding, such as the herpes simplex virus type 1 (HSV-1), HSV-2 and human immunodeficiency virus (HIV).



The Commercial Benefit

Our cutting-edge antiviral solution:

- is simple and cost-effective
- can be included in gel, cream, or liquid and used for topical treatment and prevention of viral infections.
- can coat different surfaces which can capture the viruses and avoid their spread.



Market Potential

The global pollution masks market which is projected to cross USD 4 billion by 2022. Another relevant market for our antiviral solution is the global sexual lubricant market is expected to cross \$1.4 billion, growing impressively at a CAGR of 6.7% during 2016–2022.



Target Markets/Industries

- global tropical treatment market
- global pollution masks market
- global sexual lubricant market



Intellectual Property

Patent Pending



Team: Primary Inventor

Prof. Ronit Sarid

- Prof. Ronit Sarid, of the Mina and Everard Goodman Faculty of Life Sciences, is an expert in virology whose research work is primarily focused on herpesviruses, in particular the Kaposi's sarcoma-associated herpesvirus (KSHV)
- Prof. Sarid's primary areas of interest are viruses, host-virus interactions, cancer-related human viruses and Kaposi's sarcoma.



Prof. Aharon Gedanken

- Prof. (Emeritus) Aharon Gedanken, of the Department of Chemistry, is a member of the Nano Materials Center at the Institute of Nanotechnology and Advanced Materials (BINA),
- Prof. Gedanken is a recipient of the President of Israel Achievement Award for coordination of a European Funded Research. Gedanken is a pioneer of sonochemistry – a discipline in which chemical reactions are accelerated through the application of ultrasonic sound waves.



Future Research

Optimization of nanoparticles and methods of application and assessment of the efficacy of the nanoparticles using different types of viruses.



The Opportunity

We warmly invite companies and investors to license our patent through a licensing agreement with sponsored research.



Keywords

- Nanoparticles
- Antiviral
- Microbicides
- Viruses
- Herpes simplex virus type 1 (HSV-1)
- Herpes simplex virus type 2 (HSV-2)
- Human immunodeficiency virus (HIV)