

**NanoViricides**

Incorporated

# “PENICILLIN” FOR VIRUSES

**Eradicating Diseases Caused by Viruses  
Using 21<sup>st</sup> Century Technology**

**Eugene Seymour, MD, MPH**

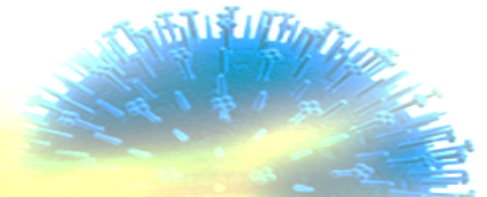
Chief Executive Officer

May 2016



“nanoviricide” is a registered trademark of NanoViricides, Inc.

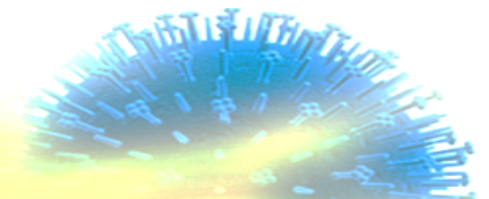
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*Stock Symbol*

**NNVC**

NYSE-mkt



# MANUFACTURING FACILITY



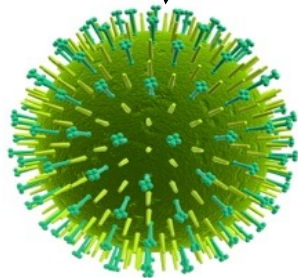
## OVERVIEW

NanoViricides, Inc has developed a patented **delivery platform** based on the principles of **nanotechnology** that enables the **creation of new drugs in a matter of weeks, not years**, that have the ability **to destroy viruses** in and on the body



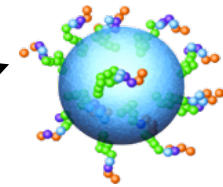
# nanoviricide mimicking target cell of virus

ATTACHMENT  
PROTEINS ON  
VIRUS SURFACE



RECEPTOR  
PROTEINS

NANOVIRICIDE

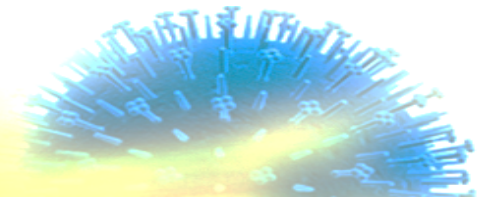


TARGET (HOST) CELL

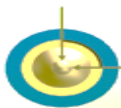


*Imitating Nature*

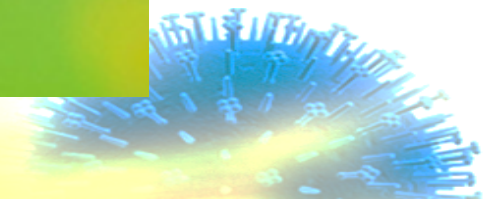
# BIOMIMICRY



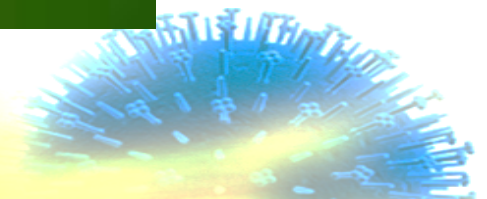
## *Venus Fly Trap Attracts Fly - BIOMIMICRY!*



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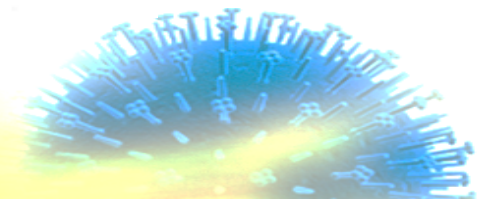


## *Venus Fly Trap Digesting Trapped Fly*



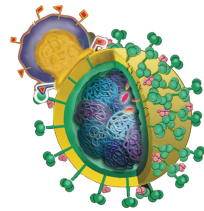


# LURING THE FISH



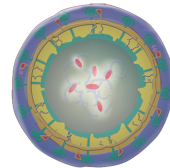
# A nanoviricide® IN ACTION AT-A-GLANCE

**ATTACH**



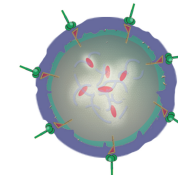
**#1** A nanoviricide binds to a virus particle.

**ENCAPSULATE**



**#2** Bound nanoviricide continuing encapsulation of virus particle

**DESTROY**



**#3** A virus particle being completely encapsulated by a nanoviricide prior to complete destruction of the envelop resulting in harmless release of the capsid containing the genomic material

- A single nanoviricide may be capable of completely engulfing a virus particle
- Nanomicelles self-assemble during production
- A single chain micelle shown for convenience

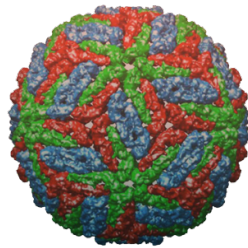
(illustration not to scale)



# VIRUS DISEASE FAMILIES

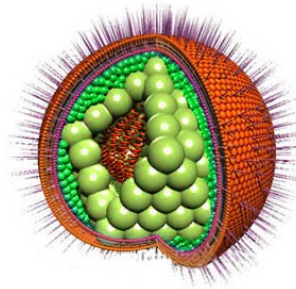
## Flavivirus

Dengue, Zika, Yellow  
Fever, West Nile Virus



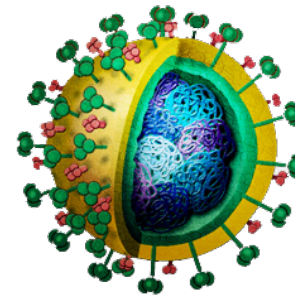
## Herpes

Shingles, Ocular,  
Genital Cold Sores

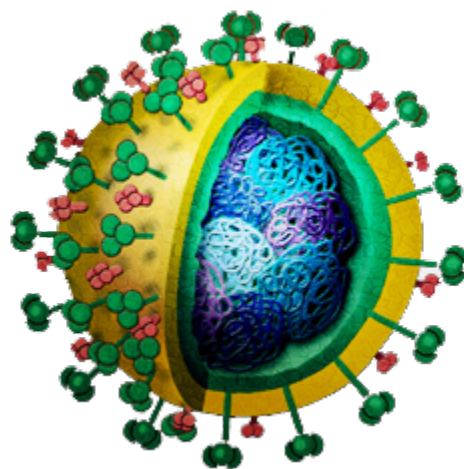


## Influenza Virus

All Strains



## BROAD DRUG PIPELINE (6 DRUG CANDIDATES WITH BLOCKBUSTER POTENTIAL)



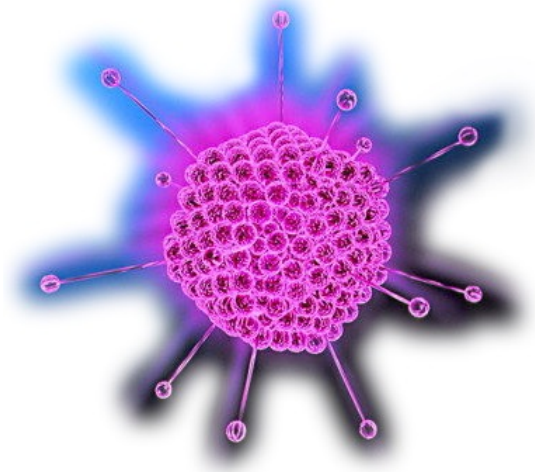
### FluCide™

1. *Injectable*
2. *ORAL*

- H7N9
- H5N1
- H9N
- Bird Flu
- Epidemic H1N1 “Swine Flu”
- Seasonal Influenzas



## BROAD DRUG PIPELINE (6 DRUG CANDIDATES WITH BLOCKBUSTER POTENTIAL)

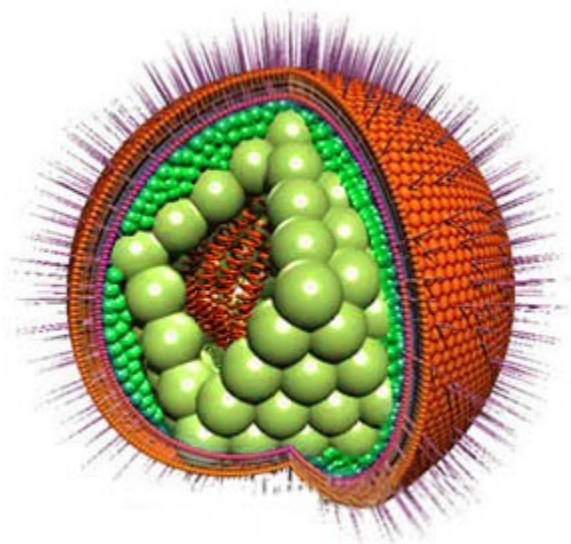


### 3. Anti-Viral Eye Drops

- Adenovirus (EKC)
- Herpes Keratitis



## BROAD DRUG PIPELINE (6 DRUG CANDIDATES WITH BLOCKBUSTER POTENTIAL)

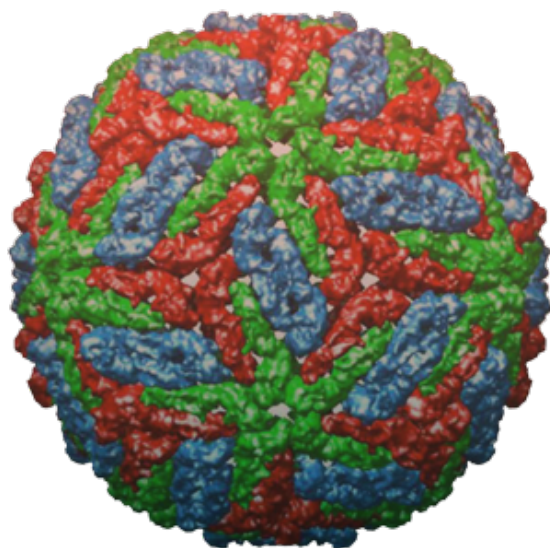


### 4. HerpesCide™ Herpes Simplex Virus (HSV) Herpes Zoster Virus (VZV)

- Oral & Genital Herpes (“Cold Sores”) - HSV
- Shingles - VZV



## BROAD DRUG PIPELINE (6 DRUG CANDIDATES WITH BLOCKBUSTER POTENTIAL)



### 6. Flaviviruses™

- Zika Virus
- Dengue Virus - DengueCide™
- West Nile Virus
- Yellow Fever Virus
- Jap. Encephalitis Virus

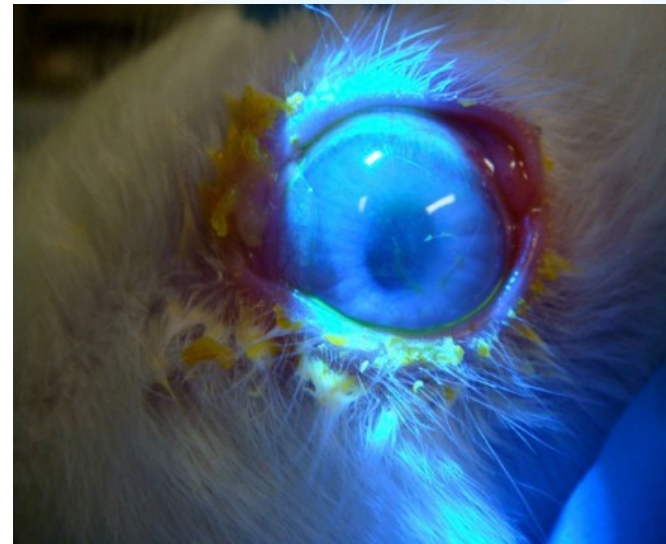
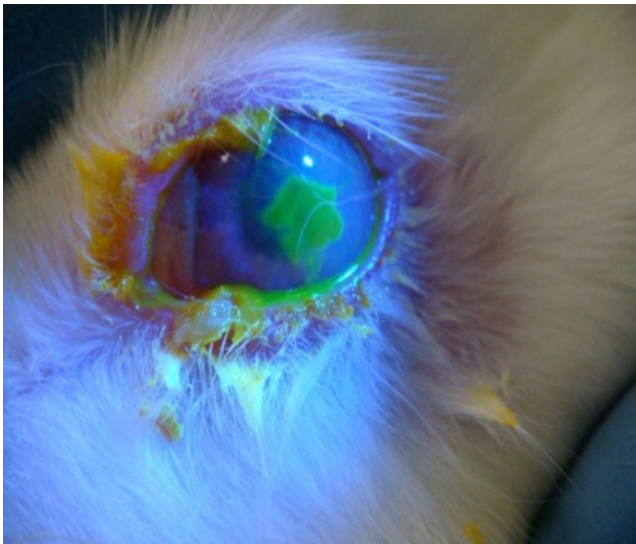


# SHINGLES



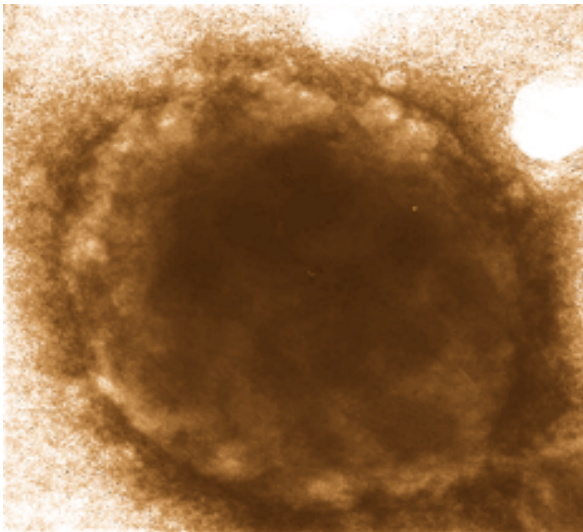


# OCULAR HERPES TREATMENT

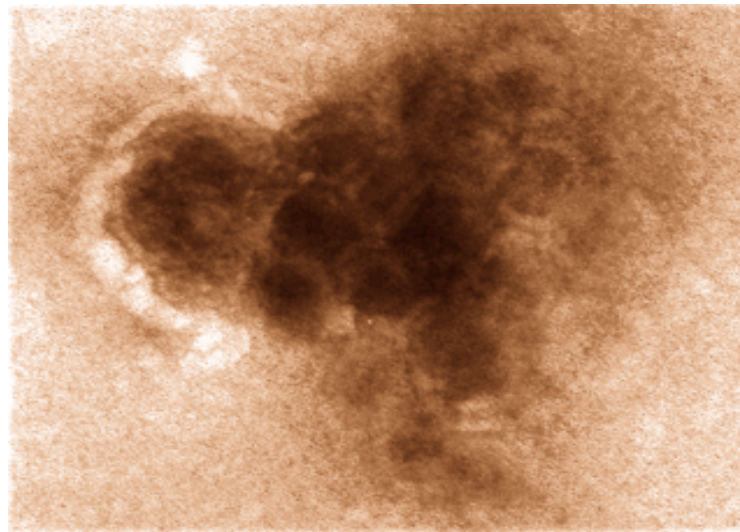


## NANOVIRICIDE EFFECT ON A CYTOMEGALOVIRUS (CMV)

CMV BEFORE INCUBATION

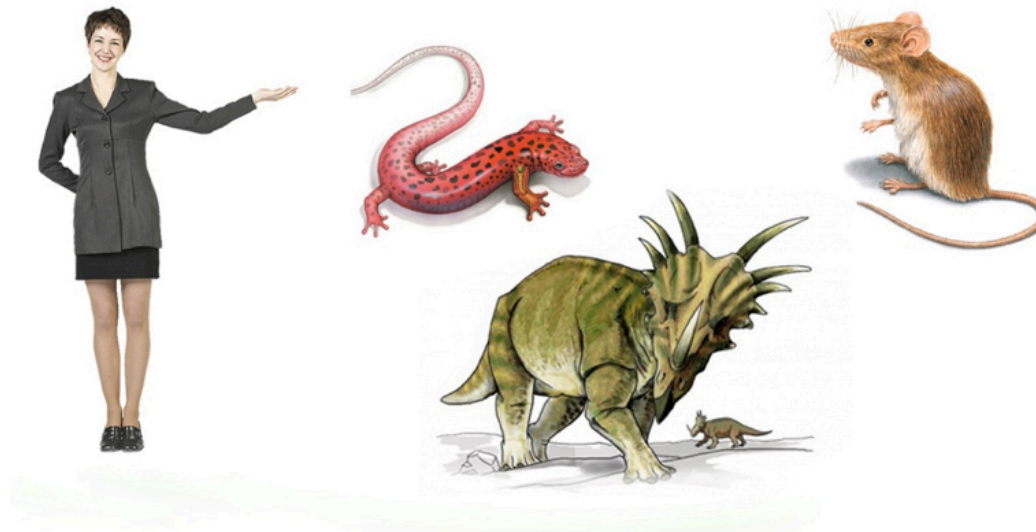


CMV DESTROYED AFTER INCUBATION WITH NANOVIRICIDE

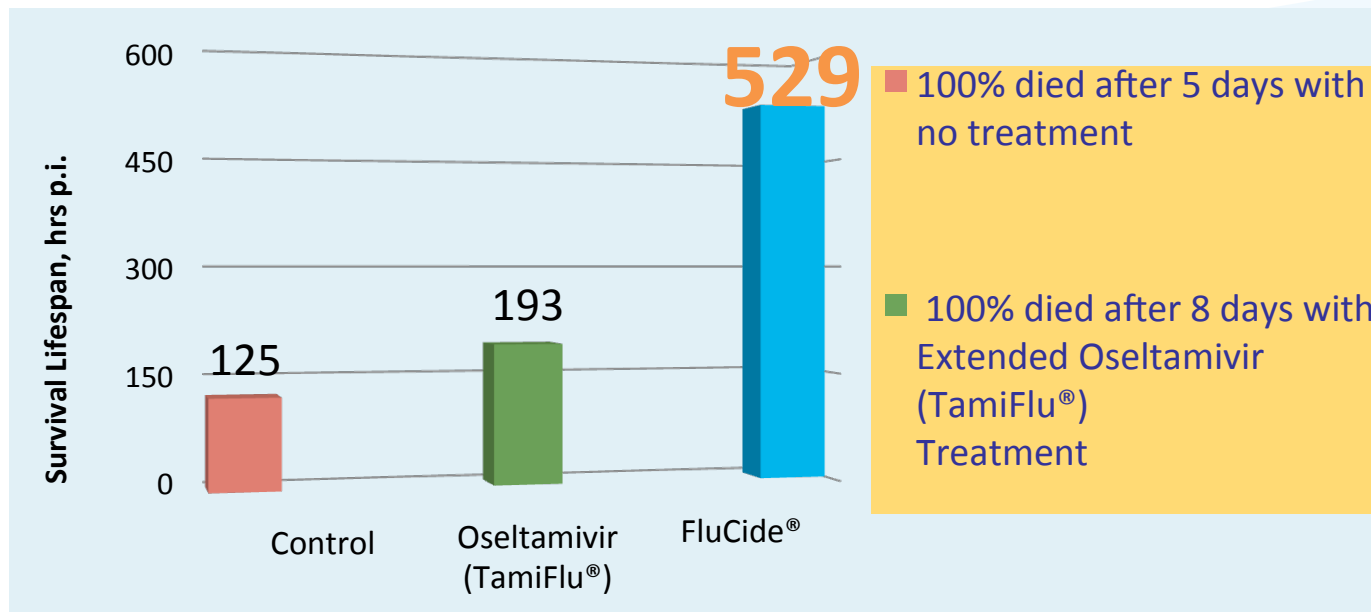


*nanoviricide™*

A **nanoviricide™** ONLY CARES ABOUT THE VIRUS,  
THE HOST DOES NOT MATTER



# FluCide™ PRECLINICAL RESULTS – SURVIVAL

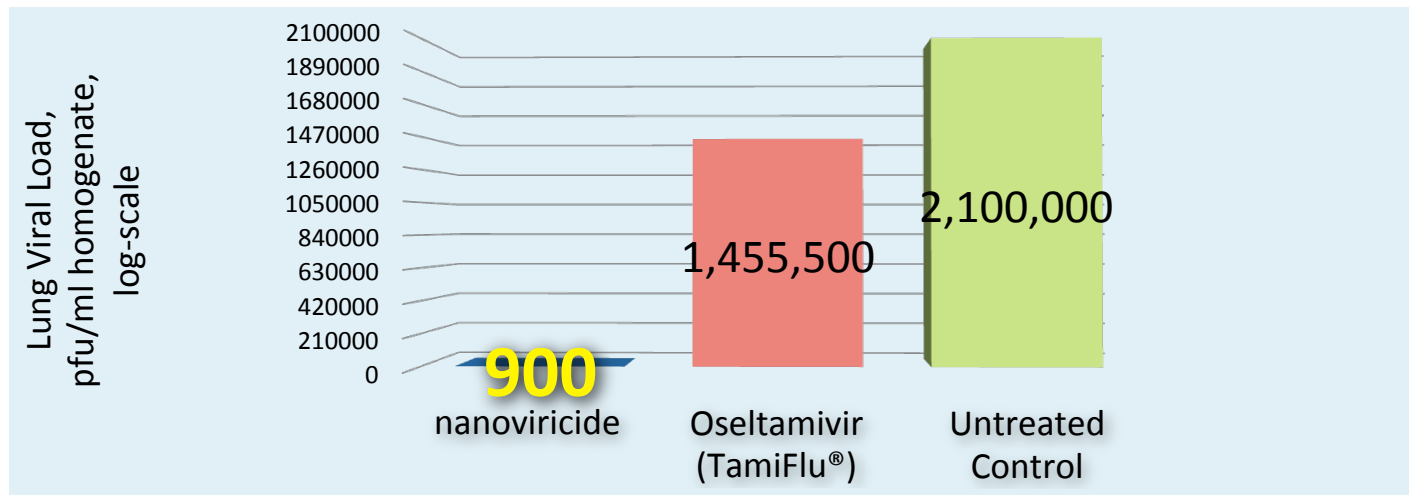


HOURS OF SURVIVAL AFTER LETHAL INFLUENZA INJECTION



## FluCide™ PRECLINICAL RESULTS – VIRAL LOAD

> 1,000 - FOLD LUNG VIRAL LOAD REDUCTION IN IV FluCide™ TREATED ANIMALS  
< 2 - FOLD REDUCTION WITH OSELTAMIVIR IN THIS STUDY



4.5 Days (108h) Post-Infection

# 2 FluCide™ Dosage Forms

## Dosage Forms of FluCide



For hospitalized patients with Influenza

>300,000 hospitalized patients with influenza in the US alone every year



Oral unit-dose twist-top aseptic package

For outpatients with Influenza

30-60M Influenza cases per year in the US annually  
Billions of cases world-wide in a pandemic

## **REGULATORY RECOGNITION**

**THE U.S. FDA AND THE EUROPEAN MEDICINES AGENCY HAS GRANTED “ORPHAN DRUG” DESIGNATION TO **DengueCide™**, THE **NanoViricides, Inc** DRUG FOR DENGUE FEVER AND DENGUE HEMORRHAGIC FEVER.**

**ZIKA VIRUS and DENGUE VIRUS are in the SAME VIRUS FAMILY AND USE THE SAME HOST CELL!**



## ***PARTNERS AND COLLABORATORS***

- **Biologics Consulting Group (BCG, FDA regulatory consultants)**
- **BASi (GLP safety/toxicology studies)**
- **Australian Biologics Pty Ltd**
- **Public Health England**
- **Southern Research Institute**
- **Baylor College of Medicine**
- **Pasteur Institute, Republic of Vietnam**
- **UC Berkeley School of Public Health**
- **NE Ohio Medical University**
- **US Army Medical Research Institute of Infectious Diseases (USAMRIID)**
- **University of Wisconsin**
- **Campbell Eye Institute at the University of Pittsburgh**
- **Walter Reed Army Institute of Medical Research**



# OVERVIEW

- COMPANY DESIGNS AND BUILDS NANOVIRICIDES™
- NANOVIRICIDES ARE NANOMACHINES DESIGNED TO DESTROY VIRUSES
- THESE NANOVIRICIDES WORK ON THE PRINCIPLE OF “BIOMIMICRY”
- RAPID NANOVIRICIDE CREATION AGAINST NEW VIRUSES (WEEKS)
- POTENTIAL CURES FOR A WIDE RANGE OF VIRAL DISEASES
- NANOVIRICIDES INC. ADDRESSES A \$100B MARKET

## A NOVEL DISRUPTIVE TECHNOLOGY



## DISCLOSURE- FORWARD-LOOKING STATEMENTS

NanoViricides, Inc. is a publicly traded company (stock symbol: **NNVC, NYSE MKT.**) This is not an offering memorandum and should not be construed as such. It is provided as a non-confidential document for informational purposes only.

[NanoViricides, Inc. \(www.nanoviricides.com\)](http://www.nanoviricides.com) is a development stage company that is creating special purpose nanomaterials for anti-viral therapeutics. The Company's novel nanoviricide® class of drug candidates are designed to specifically attack enveloped virus particles and to dismantle them. The Company is developing drugs against a number of viral diseases including all forms of influenza A (pandemic, epidemic, seasonal Influenza, bird flu; H1N1 "swine flu", H3N2, H7N9, H5N1 bird flu, etc.), HIV, EKC, Herpes "cold sores" and genital Herpes, Hepatitis C, Rabies, Dengue fever, and Ebola virus, among others.

This document contains forward-looking statements that reflect the current expectation of NanoViricides, Inc. (the "Company") regarding future events. Actual events could differ materially and substantially from those projected herein and depend on a number of factors. Certain statements are "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. You should not place undue reliance on forward-looking statements since they involve known and unknown risks, uncertainties and other factors that are, in some cases, beyond the Company's control and that could, and likely will, materially affect actual results, levels of activity, performance or achievements.

The Company assumes no obligation to publicly update or revise these forward-looking statements for any reason, or to update the reasons actual results could differ materially from those anticipated in these forward-looking statements, even if new information becomes available in the future. Important factors that could cause actual results to differ materially from the company's expectations include, but are not limited to, those factors that are disclosed under the heading "Risk Factors" and elsewhere in documents filed by the Company from time to time with the U.S. Securities and Exchange Commission and other regulatory authorities.

Although it is not possible to predict or identify all such factors, they may include the following: demonstration and proof-of-principle in preclinical trials that a nanoviricide is safe and effective; successful development of our product candidates; our ability to raise additional financing when needed; our ability to seek and obtain regulatory approvals, including with respect to the indications we are seeking; the successful commercialization of our product candidates; and market acceptance of our products.

