NanoViricides

Incorporated

Nanotechnology-Enabled Specifically Targeted Viricides

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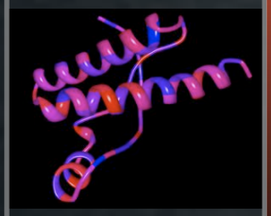
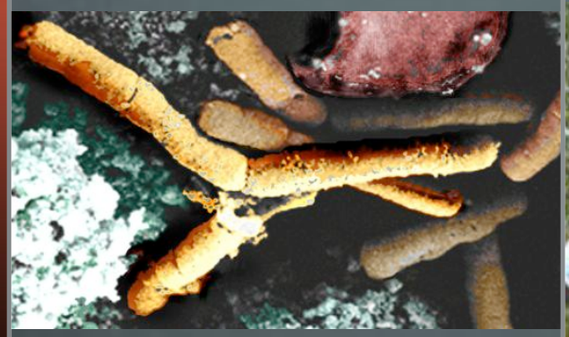
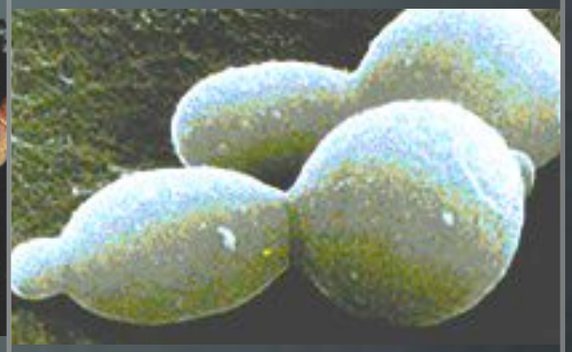
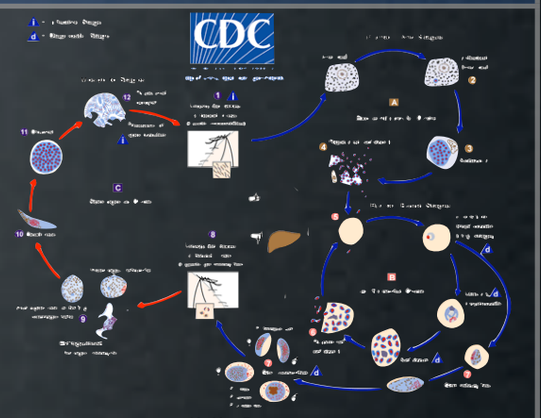
Human Infections

Prions	Viruses	Bacteria	Fungi	Parasites
 Bovine Prion Protein	 influenza virus	 Anthrax bacteria	 Candida Albicans	 Malaria, Complex Lifecycle
Prion Protein directs host cell to make copies	Viruses Cannot Reproduce by themselves. They seek, attach to, and enter a host cell. They take over the cell machinery, and use their own supplementary machinery to replicate.	Bacteria are free-living and reproduce themselves. They are “prokaryotes” which means their machinery is very different from that of “eukaryotes”.	Fungi and all higher organisms are eukaryotes. Their replication machinery is very similar, and different from that of bacteria.	Parasites have complex lifecycles. they can remain arrested in development and thus hide in one form if the next form is getting killed by a drug.

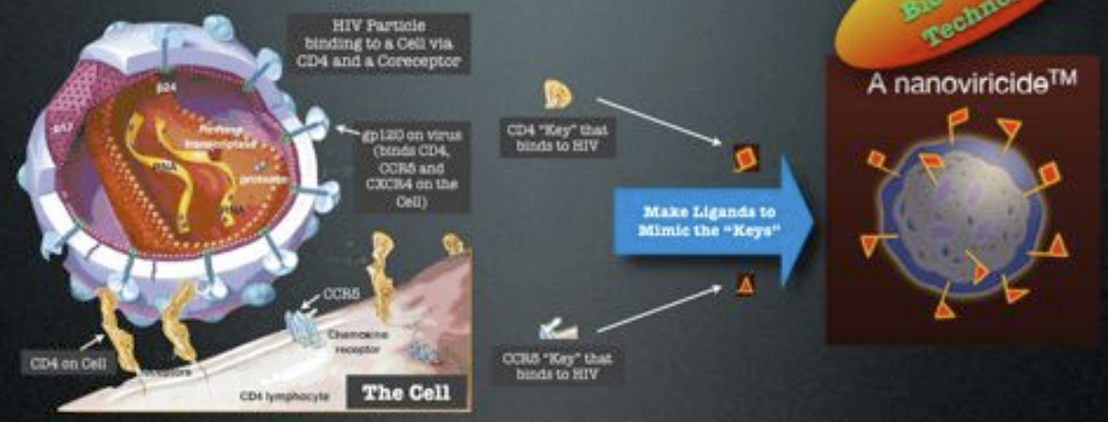
Increasing Evolutionary Complexity

"Wouldn't it be Loverly!"

- Elisa in My Fair Lady

A nanoviricide™ is a Cell Mimic

"Passive View"



A nanoviricide "Looks Like" a Human Cell to the Virus

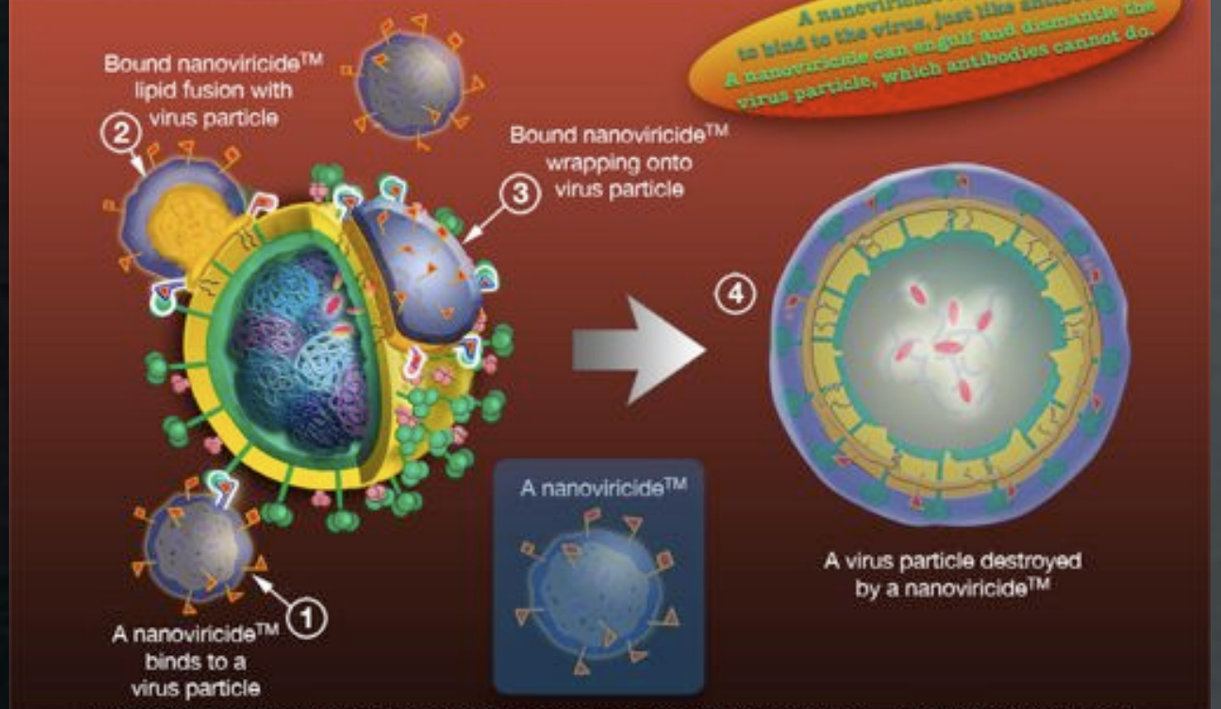
A nanoviricide is large enough for a virus particle to latch onto it.
Yet small enough to circulate readily in the body.

Rather than the virus particle entering into a nanoviricide,
a nanoviricide wraps around the virus particle and encapsulates it,
by using the virus particle's very same ability to enter a cell.

A NanoViricide™ Attacking a Virus Particle:

Unique, Novel, Nanotech Design

Active View Schematic Diagram Not Intended to be Construed as the In Vivo Mechanism



A single nanoviricide micelle may be capable of completely engulfing a Virus Particle. Nanoviricide micelles self-assemble from multiple chains. A single chain micelle shown for convenience. Illustration not to scale.

NanoViricides Technology Application Modes

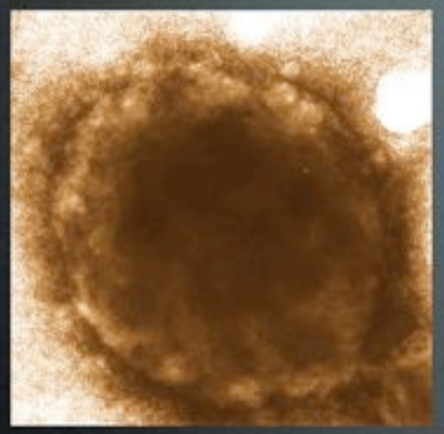
Broad-Spectrum Nanoviricides

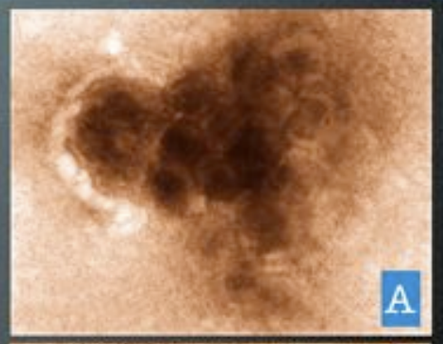
Virus-Specific Nanoviricides

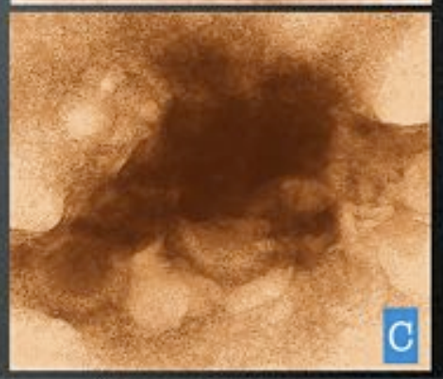
Just-In-Time "Accurate Drug In Field"™ Technology

NanoViricides Effect on MCMV

Control	Treated





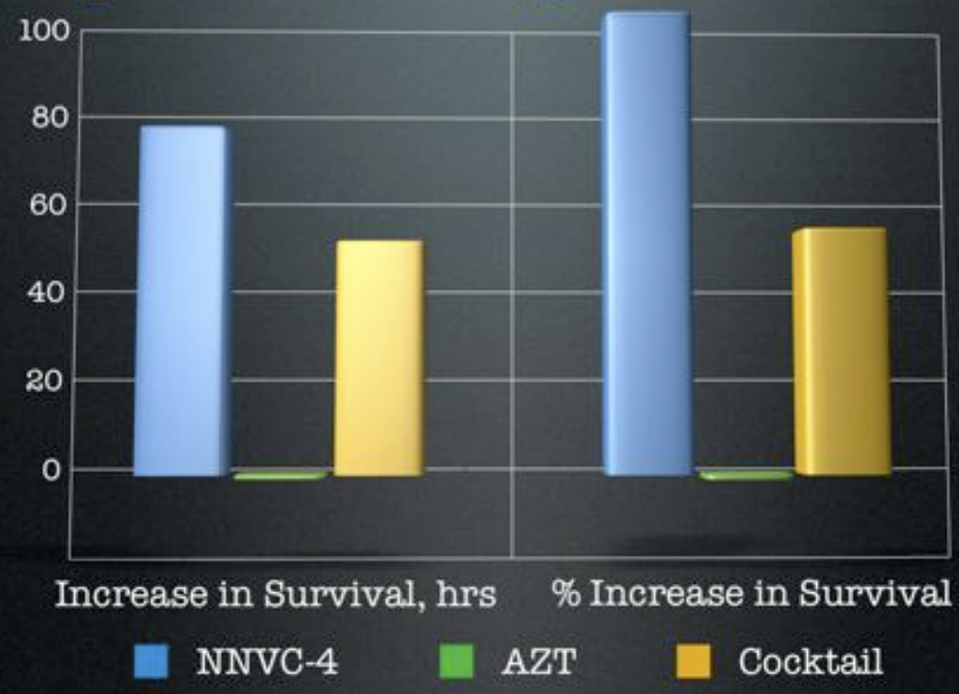


MCMV Virion
Containing Multiple Capsids and a surrounding lipid coat with coat proteins

Capsids Spilling Out
upon treatment
(2 different nanoviricides shown)

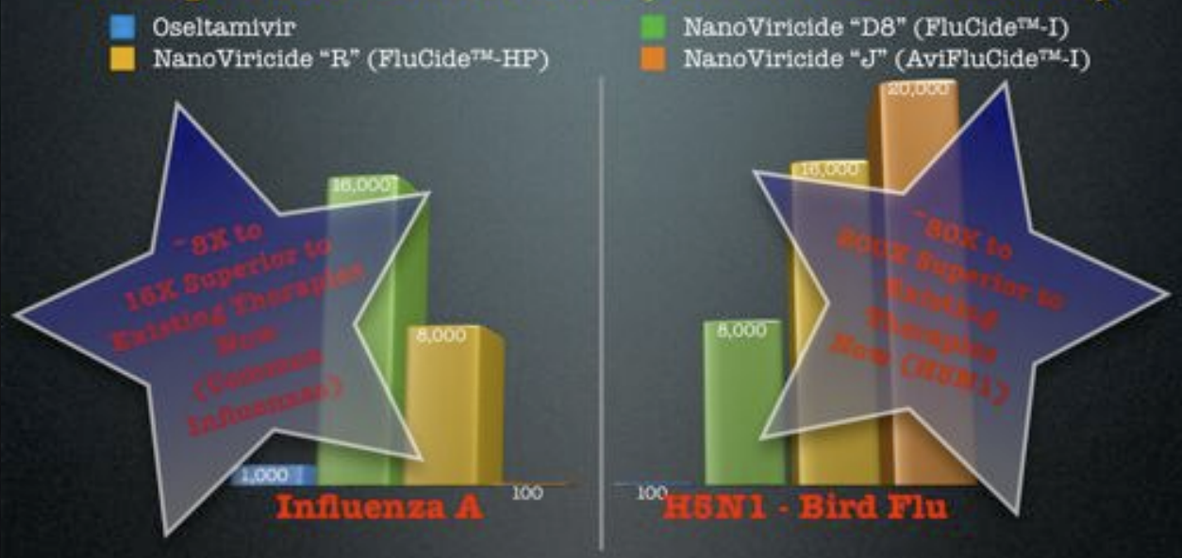
Slide 5

HIV-Cide-I(™) Substantially Superior to Triple Combo Therapy in Animal Study



Slide 9

Comparative Efficacies (Relative Estimates)



We Have Now (almost) Matched H5N1-Specific Antibody Drug Efficacy with Broad-Spectrum Nanoviricides

Based on our Current Data In Vivo and In Vitro
(Note: R is more efficacious against High Path Influenzas than against H1N1)

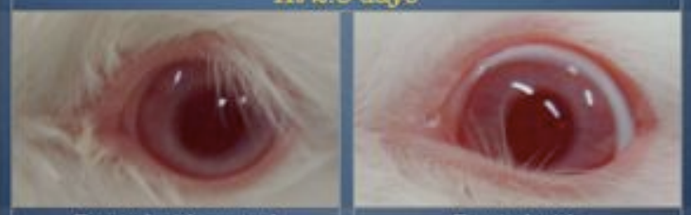
Slide 6

Epidemic Kerato-Conjunctivitis (EKC) - Severe Pink Eye Disease

Adenovirus 5 Animal Studies(EKC, a Severe Pink Eye Disease)

White Conjunctiva Restored by Nanoviricide Drug Candidate in Adenoviral Epidemic Kerato-Conjunctivitis (EKC, a Severe Pink Eye Disease)

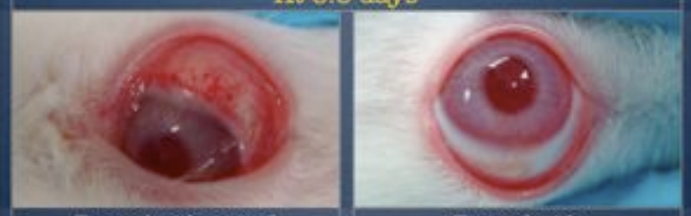
At 2.5 days



Treated with control eye drops solution, at 2.5d

Treated with nanoviricide "R", at 2.5d

At 5.5 days



Treated with control eye drops solution at 5.5d

Treated with nanoviricide "R" at 5.5d

Rabbit eyes were infected with adenovirus 5. Treatment (twice daily) with 2 drops at a time was started 3 hours post-infection. Photos taken at about 60h (2.5 days) and132 hours (5.5 days) post-infection show complete clearance of pink eye symptoms in the nanoviricide treated eye as compared to the eye treated with a standard control eye drops solution. There were 6 eyes in each group, and uniform results across the groups were seen.

Slide 8

Slide

Roll Over, Antibody

	NanoViricides	Antibodies
Spectrum	Broad to Narrow, Tailored	Very Narrow to Narrow, Selection Probabilistic
Escape	Minimized (function of spectrum)	Antigen Mutations Cause Pathogen to Escape Drug
Stability	Room Temperature	Refrigeration Chain Needed
Mechanism	Immuno-compromised status ok	Require Patient Immune System to be Functional
Strategic National Stockpile	Multiple Bugs, One Drug	One-bug- One-drug Approach
Cost	Not as expensive	Expensive
Development	Multiple Strategies; Not very long	Long and Expensive

NanoViricides - The Next Advance Beyond Immunotherapeutics

Roll Over, Antibody

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The End