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**NUTRIENT SILVER SAFETY AND EFFICACY WHITE PAPER**

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**ABSTRACT**

**Throughout the centuries and into today, silver in various forms has been used to benefit mankind.** Being “born with a silver spoon...” was always a good thing.

Some cultures added powdered silver to a newborn’s first bath as protection against a harsh world. Milk farmers used a silver coin in the pail used to collect milk, because they found that the raw milk could thus remain unrefrigerated for hours without spoiling.

Similarly, our early settlers would often throw silver dollars into their wells or water barrels to keep the water potable. In days of old, they did not know *why* silver made such a difference in their lives; but they knew that it *did* make a positive difference in their lives, when it was used in these ways.

Modern science now explains why these ancient practices were effective; it also shows that even in modern-times, silver has many uses that support our healthy well-being. Numerous tests at major universities and commercial labs like Kansas State, UC Davis, Brigham Young University have proven the effectiveness of nutrient silver to support a healthy immune system.

The US Government Defense Threat Reduction Agency (DRTA) sponsored *in vitro* study, declassified in 2009, showed that Nano Silver 10 PPM elegantly supported *normal cell membrane integrity* in the face of virulent hemorrhagic viruses and coronaviruses.

## NANO SILVER SAFETY

### ***Does The Silver Solution Harm The Helpful Bacteria in Our Intestines?***

This is an important question because some products can wipe out friendly bacteria that inhabit our large intestines. These friendly bacteria not only produce B vitamins and folic acid for you, but they support healthy immune function.

Nano Silver (but not necessarily other forms of nutrient silver, such as “mild silver protein,” colloidal silver and ionic silver) does not present such a problem. Independent studies both at Brigham Young University and Viridis Biopharma have effectively shown this. In vitro testing of the silver on a number of friendly fauna, such as lactobacillus, have shown that the silver does not kill these helpful, aerobic, probiotic bacteria.

- Nano silver particles are excreted from the body within 24 hours. Therefore, supplements made with our silver particles can normally be ingested daily as a dietary supplement without building up in the body.
- Nano silver particles reach their peak absorption in the blood stream within 2 hours (quick and effective absorption).
- Because of their multiple modes of action you need less of nano silver particles to accomplish the same thing as you would with other ionic or colloidal silver particles (this results in much less silver ingested comparatively).
- Patented by American Biotech Labs (herein, ABL), this metallic nano particle is coated with a multivalent silver oxide coating or “skin”. With this outer coating, the silver particle is attracted to the surrounding water molecules, and as such, becomes part of the structure of the water. This makes the silver much more stable and bioavailable than other silver particles. Additionally, the unique Ag<sub>4</sub>O<sub>4</sub> coating gives the silver particle multiple modes of action by which the particle can be useful in the body:
  - Ability to steal electrons
  - Resonant Frequency
  - Electrostatic Charge
- Ionic Silver is one of the most common forms of silver liquid found in the food supply and in the supplement industry today. Many are made by diluting chemical forms of silver, like silver nitrate, to a desired parts per million (ppm), which is then bottled and sold to the public. Although ionic silver products have the smallest particle size (which they usually tout), they are often the least stable and can easily fall out of suspension. Additionally, ionic forms of silver only have one mode of action. Once each silver ion steals its missing electron, it becomes neutral and is no longer useful in the body. Lastly, ionic forms of silver are metabolized, and as a result, can bind up in the body.
- Over extended periods of time this build up could cause a skin condition known as Argyria, otherwise known as The “blue man’s syndrome”. Argyria is a result of there being so much chemical or ionic silver in the body at one time that the body cannot dispose of it fast enough through its normal

excretion systems. In order to get rid of this excess silver, the body walls it off in the cells. This causes a grayish blue discoloration. Although this condition is medically benign and cosmetic only, in most cases the discoloration is permanent.

- EPA (who is in charge of defining safe levels of any mineral in water which is used for ingestion, drinking, or disinfecting), the oral consumption of small amounts of silver in water on a daily basis poses no significant degree of risk. According to historical information published on silver, unless an individual were consistently consuming (every day for over a year) over 50 times the recommended daily dosage of a 10-30 ppm product, there would be no possibility of that individual contracting argyria. On the contrary, those people who consume hundreds or even thousands of times the recommended daily dosages do run a risk of developing this condition overtime.
- A peer-reviewed report from Pennsylvania State University was released after years of studying a number of colloidal silver and silver aquasol or nano products purchased from the U.S. market. The paper was authored by Professor Rustum Roy, along with seven other professors and scientists from leading universities. In the report cited below, on the subject of ionic vs. metallic silver for human use, Dr. Roy states (page 2, fourth paragraph): “In spite of this enormous range of data, it is extraordinary that no major effort has been made to confirm and expand on the role of metallic silver in human health—especially in light of its huge advantage in lack of side effects. (Ingestion of excessive amounts of ionic (soluble) silver, not metallic solid particles is reported to have resulted in a very rare condition labeled argyria, an (irreversible?) darkening of the skin. No one has died of this condition. The safety of metallic SilverSols<sup>®</sup> is firmly established by the data cited above.)
- Mild silver proteins are simply another form of ionic silver. The only difference being that because ionic forms of silver are not generally stable and because they contain unusually large amounts of silver, they are sometimes bound to a protein. The idea behind binding the ionic silver to the protein is to help make the product more stable than traditional forms of ionic silver, as well as, hopefully making the ionic solution more bioavailable. However, as a result of this binding with protein, the silver ion is less functional and useful than traditional ionic silver ions. Consequently, higher levels of silver (ppm) are needed to obtain the desired effect.

*Ultradilute Ag-Aquasols with extraordinary bactericidal properties: the role of the system Ag-O-H<sub>2</sub>O. (Materials Research Innovations, vol. 11, no. 1, (2007) pages 3-18)*

- It is common to measure silver concentration using parts per million (ppm), which basically means so many parts of silver per million parts of water (or whatever liquid is being used). Most silver products on the market range in the 50 to 100 ppm silver concentrations with some even as high as 5,000 ppm. ABL nano silver on the other hand, ranges from 10 to 30 ppm.
- Less silver is more effective when it is true nano silver so there is no danger of accumulation.
- Abundant research on this leading edge technology: These tests have ranged from research on our particles, efficacy and safety studies; including the first ever double blind, placebo controlled, human ingestion safety study done on a nano silver particle. There have also been more than 8 peer-reviewed and published scientific and medical journal articles written on this technology.
- Mild silver proteins are simply another form of ionic silver. The only difference being that because ionic forms of silver are not generally stable and because they contain unusually large amounts of

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AN *IN VIVO* HUMAN TIME---EXPOSURE INVESTIGATION OF A COMMERCIAL SILVER NANO---PARTICLE SOLUTION. M. A. M. A. Munger, P. Radwanski, G. J. Stoddard, A. Shaaban, D. Grainger, G.Yost University Of Utah, SLC, UT.

## RESULTS:

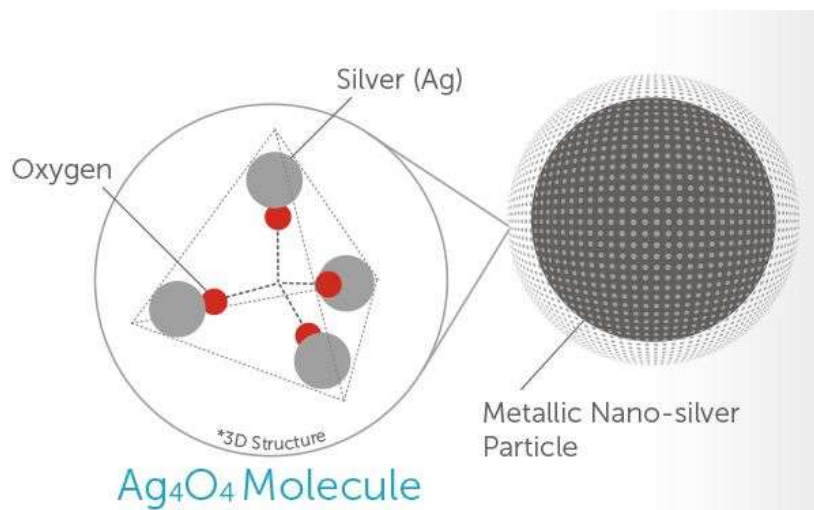
- No Clinically important changes in any metabolic, hematologic, or urinalysis measure identified were determined.
- No Morphological (or structural) changes were detected in the lungs, heart (cardiac function) or abdominal organs. No Changes were noted in sputum reactive oxygen species or in pro---inflammatory cytokines.

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## NANO SILVER RESEARCH COMPENDIUM

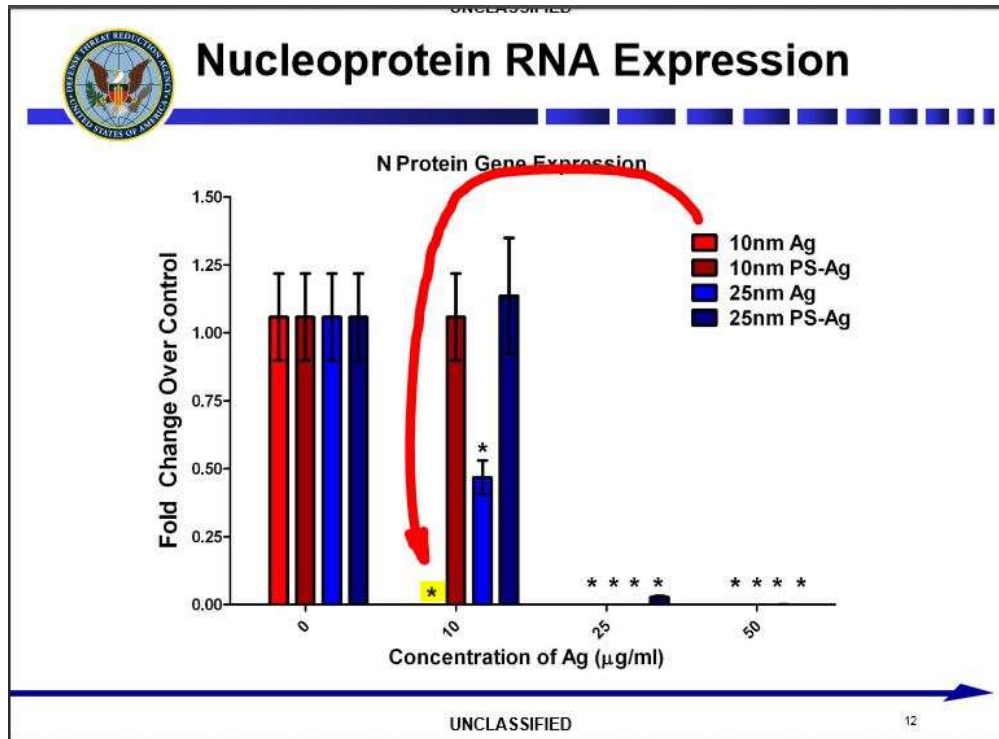
The first part of this Section includes a number of images from various sources that illustrate facts about Nano Silver that are further amplified in the following part of this Section that reviews a major US Government-funded study of Nano Silver, the DRTA Study.

**The Scientific Conclusion is that nutrient Nano Silver regulates a normal immune system while supporting cell membrane integrity. Cell wall membranes are the final line of defense for the immune system.**



Nano Silver's special molecular structure enhances its effectiveness.

## Studies Substantiate Nutrient Silver Immune System Support



Notice the Protection from Nano Silver

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### Cathepsin Activity

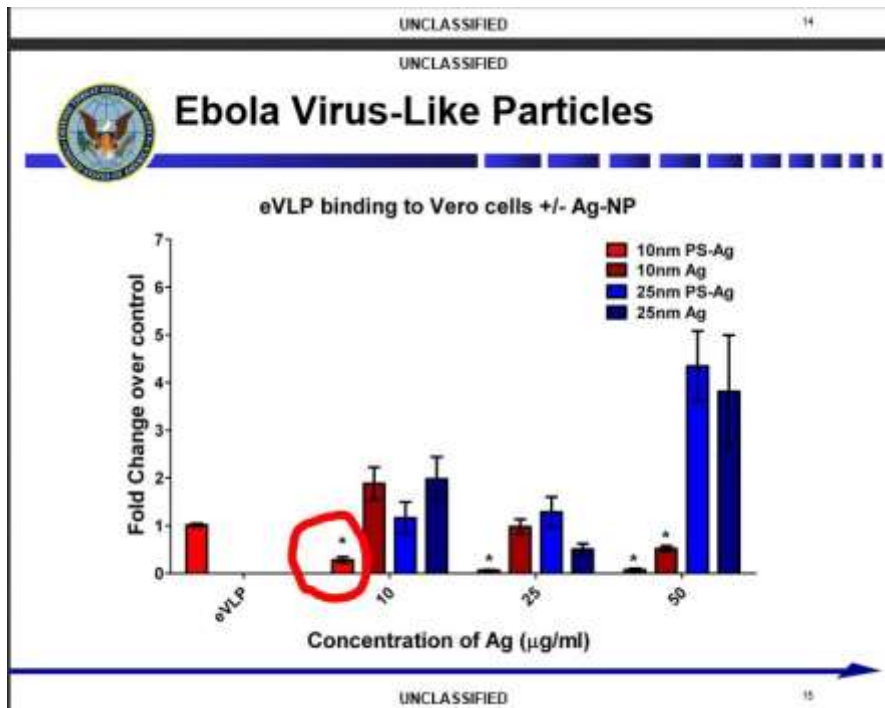
- Bulk and Nano Silver have been shown to inhibit enzyme activity.
- Silver binds readily to thiol groups.
- Cathepsin B has been shown to have an essential role in Ebola virus replication.
- Cathepsin L has an accessory role in Ebola virus replication.

Cathepsin B  
L. Jayashankar, Acharya Nagarjuna University, Guntur

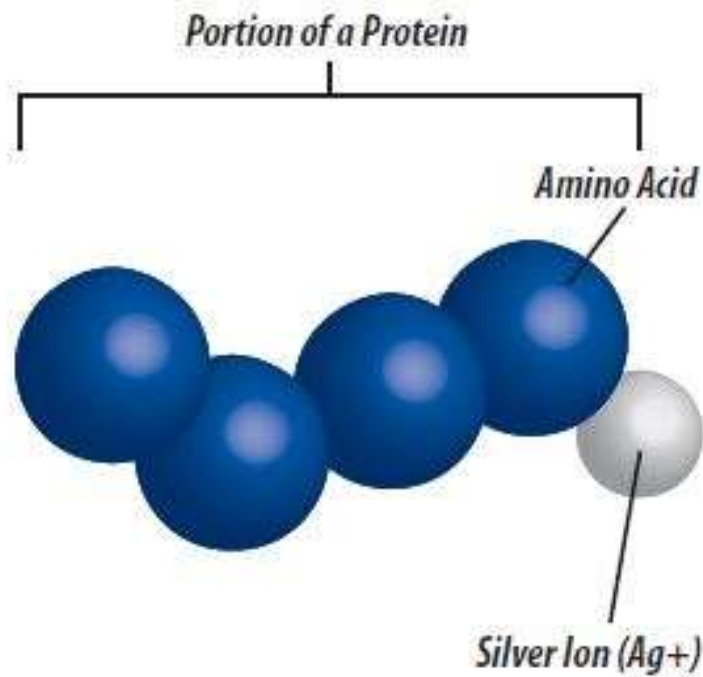
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Binding to cell membranes is an essential step required by all viruses to cause human disease.



### Nano Silver Protects Cell Membrane Integrity



### The Action of the Silver Ion

## Analysis of DTRA Nano Silver Study



**Defense Threat Reduction Agency**

**2009 DOD Funded Study Finds  
Nano Silver Inhibits Ebola Virus**

**Novel Nanotechnology-Based  
Antiviral Agents:**  
*Silver nanoparticle neutralization of hemorrhagic  
fever viruses*

Applied Biotechnology Branch  
711<sup>th</sup> Human Performance Wing  
Air Force Research Laboratory

Further Information from Natural Solutions  
[www.NSFmarketplace.com](http://www.NSFmarketplace.com)

Cleared for public release 88ABW-2009-4491  
UNCLASSIFIED

Funding: DTRA (proposal #4.10036\_07\_AHB\_B) & JSTO/DTRA – NRC  
Postdoctoral Fellowship Program (contract #F49620-02-C-0015)



Nano Silver 10 ppm is a micro-nutrient that supports normal immune system function.

What follows is a detailed examination of the declassified DRTA-sponsored Study.


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**Novel Nanotechnology-Based  
Antiviral Agents:**  
*Silver nanoparticle neutralization of hemorrhagic  
fever viruses*

Janice Speshock, Ph.D.  
Saber Hussain, Ph.D.  
Applied Biotechnology Branch  
711<sup>th</sup> Human Performance Wing  
Air Force Research Laboratory

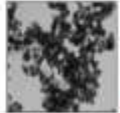
Cleared for public release 88ABW-2009-4491  
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- This research was conducted by the Defense Threat Reduction Agency (DTRA) of the United States Department of Defense.
- DTRA's research showed that 10PPM, not 25PPM or 50PPM was by far the most effective amount for down-regulating virus replication. **The mere presence of a particular virus in the**

**body, as part of the microbiome, is not itself a disease. The regulation of the microbiome is a normal body function. Therefore the Nano Silver Protocol is a Nutritional Protocol for the support of the normal immune system, intended to achieve and maintain homeostasis.**

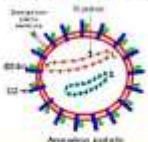
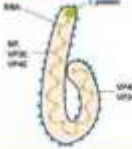
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<b>Silver Nanoparticles</b>		
	UNCOATED	POLYSACCHARIDE COATED
10 nm	 $12.78 \pm 0.13$ ✓ <small>Dr. Steve Odenburg, NanoCompos</small>	 $9.48 \pm 4.286$ ✗ <small>Dr. Dan Gole, Clarkson University</small>
25 nm	 $27.474 \pm 9.062$ ✗ <small>Dr. Karl Martin, Novascen</small>	 $25.98 \pm 8.38$ ✗ <small>Dr. Dan Gole, Clarkson University</small>

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- Protein coated or other types of preparations were much less effective than uncoated Nano Silver.
- DTRA’s research was carried out on various hemorrhagic (bleeding-inducing) and deadly viruses. The results were the same: Nano Silver at 10 PPM was the most effective agent at supporting homeostasis by regulating normal cell membrane impenetrability to the virus.

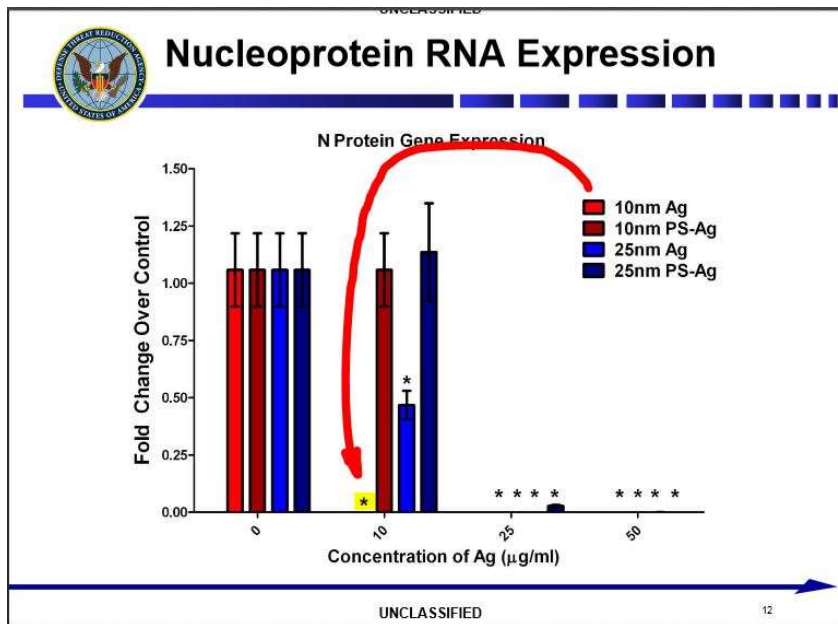
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<b>Hemorrhagic Fever Viruses</b>	
<p><b><i>Arenaviridae</i></b></p> <ul style="list-style-type: none"> <li>• South American HFV, Lassa Fever, LCMV</li> <li>• Enveloped, RNA viruses</li> <li>• No effective therapies</li> <li>• Candid#1 vaccine</li> <li>• 5-35% fatality rate</li> </ul>  <p style="text-align: center;"><small>Arenavirus particle</small></p>	<p><b><i>Filoviridae</i></b></p> <ul style="list-style-type: none"> <li>• Ebola and Marburg</li> <li>• Enveloped, RNA viruses</li> <li>• No effective therapies</li> <li>• Vaccine in Phase I trials</li> <li>• <b>Up to 90% fatality rate</b></li> </ul> 

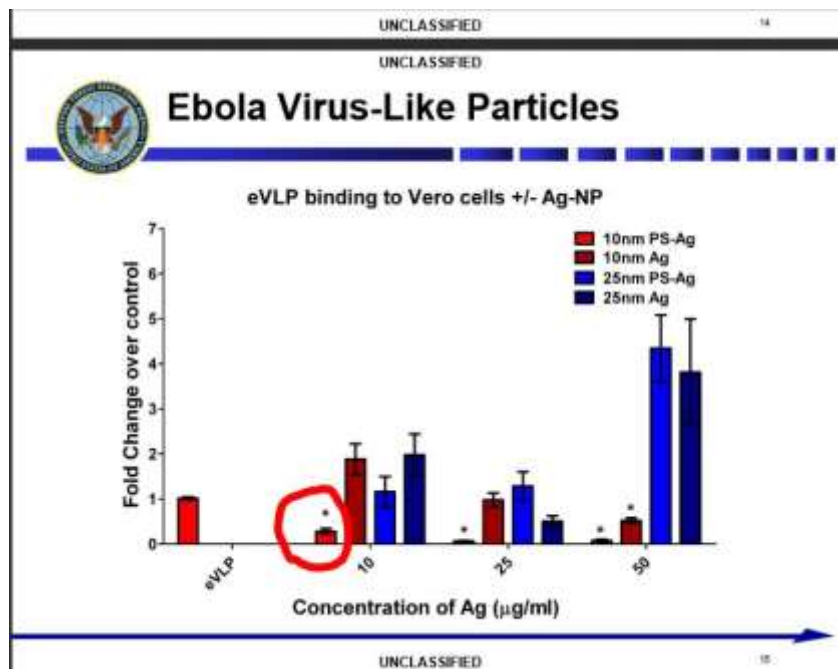
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- When 10 PPM Nano Silver was applied, all of the Virus was affected (None of its genetic material remained, compared to the other nano materials).

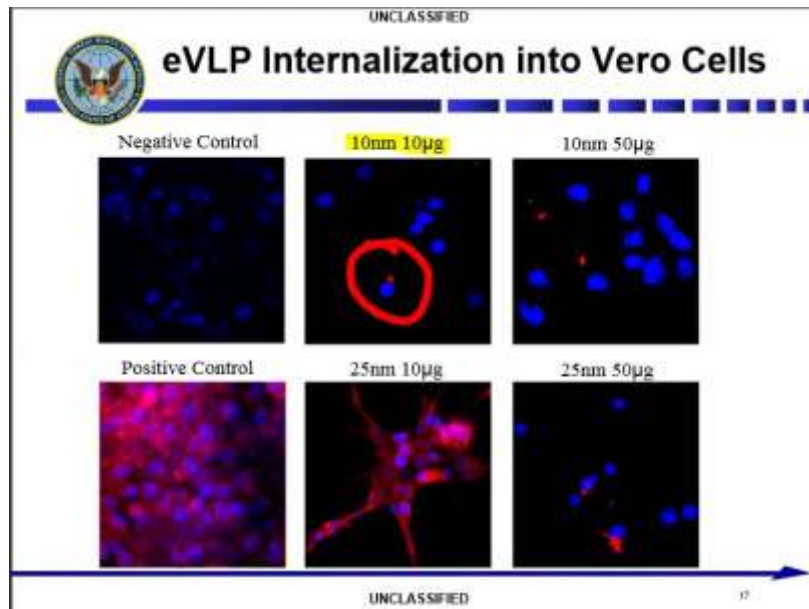




- Nano silver preparations, regulated particle cell binding.
- **If the viral particles do not bind to cells, they cannot replicate. It is the “viral” replication that leads to the disease symptoms. Otherwise, they are just another part of the microbiota, maintained in a normal state by the nutrient silver’s nutritional support of normal cell membrane integrity.**



- Even if the virus did bind to, and enter, the cell, viruses faced with the correct type and size of Nano Silver showed very little activity. Red indicates viral activity below the Control.



- Not only was the absolute effect of the correct Nano Silver on Ebola virus established in DTRA's research, the precise mechanism of nutrient action was determined

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- Information showing the authors and their affiliations reveals the following critically important information:
  - At least 24 people participated in the study that demonstrated it!



- The authors were part of a group (AFRL/RHPB BIN Group) carrying out research
- Dr. Kelly Warfield was affiliated with the United States Army Medical Research Institute of Infectious Disease (USAMRIID), located in Fredrick, MD



- USAMRIID's bibliography shows at least 85 scientific papers on Ebola Virus, the earliest going back to 2000, the first year for which their online list of scientific publications is available. The first paper listed is

[Bray M, J Driscoll, JW Huggins.](#) 2000. Treatment of lethal Ebola virus infection with a single dose of an A-adenosyl-L-homocysteine hydrolase inhibitor. *Antivir Res* 45:135-147.

- Bray, et al, is a paper about the treatment of Ebola infection, as are at least half of their Ebola-related publications.

[Gunther S, Feldmann H, Geisbert TW, Hensley LE, Rollin PE, Nichol ST, Stroher U, Artsob H, Peters CJ, Ksiazek TG, Becker S, ter Meulen J, Olschlager S, Schmidt-Chanasit J, Sudeck H, Burchard GD, Schmiedel S.](#) Management of Accidental Exposure to Ebola Virus in the Biosafety Level 4 Laboratory, Hamburg, Germany. *Journal of Infectious Diseases* 2011 Nov; 204(Suppl 3): S785-S790

- There can be no doubt whatsoever that at least one agency, USAMRIID’s research was yielding treatment options for Ebola virus since at least 2000.
- The collaboration with DRTA was carried out sometime before 2009 when the research cited above was declassified.
- A search on the USAMRIID site reveals 22 citations for “antiviral”, the second of which, Gene - Specific Ebola Therapies Protect Nonhuman Primates from Lethal Disease, dates back to 2006.

## CONCLUSION

**A correct understanding of nutritional science shows us that nutrient Nano Silver supports normal cell membrane integrity.** This nutrient effect, based on general scientific principles, allows for the dietary management of medical conditions, based on medical evaluation. My Nano Silver is intended for nutrient purposes only.

The natural solution has been available all along. It is a nutritional therapy that recognizes the nutrient value of Nano Silver.

Authors: Rima E. Laibow, MD is a licensed New York physician and psychiatrist who is the Medical Director of the Natural Solutions Foundation – [www.DrRimaTruthReports.com](http://www.DrRimaTruthReports.com). Ralph Fucetola, JD is a retired New Jersey attorney at law, President of the Institute for Health Research – [www.InHeRe.org](http://www.InHeRe.org) and a Trustee of the Natural Solutions Foundation.

These statements have not been evaluated by the Food and Drug Administration.

This product is not intended to diagnose, treat, cure or prevent any disease.

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## SELECTED NANO SILVER CITATIONS

**[Any medical treatment terminology is not adopted by this White Paper.]**

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17. <http://omicsonline.org/phyto-synthesized-silver-nanoparticles-a-potent-biolarvicidal-agent-2155-983X.1000111.pdf>  
An in vitro study was conducted to investigate the antiviral properties of silver nanoparticles synthesized from fungal strain *Aspergillus* species isolated from soil. The isolated and characterized silver nanoparticles exhibited as an excellent antiviral property on Bacteriophage viral strain.
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