

Sovereign Silver™ Promotes Healthier Immunity ♦

By Dr. John W. Apsley, © 2003 by Natural-Immunogenics Corp.

Introduction

Available medical literature spanning 90 years suggests that **Sovereign Silver™** will enhance immunity in five key ways. ♦

- Helps stimulate immature blood cells to become fully-functioning adult cells
- Provides a precise immune support for white blood cells.
- Enhances target-specific immunity
- Boosts the ability of white blood cells to intercept immune risks
- Helps eradicate unhealthy immune challenges

The immunity enhancement is a result of the rich bioactive content, scientifically termed “oligodynamic” silver, in **Sovereign Silver™**. This article will review how the body uses silver hydrosol for greater immune vitality.

Sovereign Silver™ Helps Stimulate Immature Blood Cells to Become Fully-Functioning Adult Cells

As early as 1907, silver administration was observed to increase production of white blood cells.^{1, 2} In 1909, the *Journal of The American Medical Association* conceded that colloidal silver promoted increases in white blood cells and could in principle help purify the blood from noxious factors.³ The feats attributed to silver remain controversial; yet nevertheless are re-confirmed. In 1916⁴ Bechhold cited evidence of oligodynamic silver promoting healthy increases of both red and white blood cell counts occurring just after a short yet uneventful dip in blood count.^{5, 6} Then in 1929, silver was found to optimally stimulate an entirely separate line of defense within our immune system. Scientists refer to this as the reticulo-endothelial system (RES).⁷ More recently, Becker, Berger, Marino and Spadaro confirmed that electrically produced oligodynamic silver gives a healthy boost to blood cell production.^{8, 9, 10}

While low white blood cell counts open the door to serious immune risks, **Sovereign Silver™** may help successfully counter these risks. ♦

Sovereign Silver™ as a Precise Immune Support for White Blood Cells

Hit or miss tactics of taking different types of supplements to build a strong immune defense are misguided. The proper objective is to use sound strategies for immune threats. So, let’s get right to the issue. The right strategies will rely upon oligodynamic silver, because this is how we can enhance the immune system to mobilize for healing! The oligodynamic silver in **Sovereign Silver™** will actually help white blood cells defend against unwanted health risks. ♦

To illustrate this consider one group of tools that white blood cells use all the time. These tools can be thought of as “immune digestive aids.” Two powerful digestive aids are “superoxide” and “hydrogen peroxide,” known more commonly to scientists as **ROS**.^a Hydrogen peroxide is produced as a broad-spectrum “immune digestive aid” relied upon by several types of white blood cells. Compelling research has documented that oligodynamic silver promotes healthy production of **ROS**.^{11, 12, 13} Two modern day researchers, Thurman and Gerba, surmised as early as 1989 that oligodynamic silver promoted a

^a Reactive Oxygen Species (ROS).

heightened digestion of immune risks.^{14, 15} The targets susceptible to this form of silver are noxious proteins such as unfriendly enzymes, intrusive proteins within membranes or foreign nucleic acids.¹⁶

This research suggests that **Sovereign Silver™** may deliver precise immune support to white blood cells. ♦

How Sovereign Silver™ May Enhance Target-Specific Immunity

When silver ions are added to **ROS** actions, they become site specific to the targets! This provides rapid, repetitive immune efforts against such threats. Further support comes from secondary **ROS**, which lock into the same immune target area. In other words, **ROS** and silver ions recycle each other's efforts until the job is done.¹⁷

Scientific evidence suggests that **Sovereign Silver™** delivers active and recyclable silver ions that can redouble their efforts until local immunity is restored. ♦

Sovereign Silver™ May Boost the Ability of White Blood Cells to Intercept Immune Risks

Over 90 years ago, several medical authors suggested that oligodynamic silver supported the *tracking, mobilization, recognition* and *surveillance* power of special white blood cells.^{18,19} Scientists often make reference to this “skill set” of special white blood cells as the “Opsonic Index.” Without the Opsonic Index, much of the immune system would be blind. In effect, silver ions appear to improve the white blood cell senses. Recent studies are confirming the exciting role that oligodynamic silver may play.

For example, silver may enhance white blood cells to “prime” themselves to go on the offensive.^{20, 21}

Another group of white blood cells whose sensing mechanisms are boosted by oligodynamic silver are more defensive in nature. For example, along the body's internal lines of self-defense oligodynamic silver ions aid the clashes and skirmishes the immune system must encounter.^{22, 23, 24} These clashes and skirmishes can leave behind debris. Some of this debris may still irritate the immune system.^{25, 26, 27} So occasionally, temporary symptoms may arise for consumers of **Sovereign Silver™** that scientists refer to as Jarisch-Herxheimer (JH) Effects. ♦^{28,29} When such temporary symptoms do arise, it's good to know that silver may also enhance the clean-up phase of resulting debris.^{30, 31, 32, 33} For example, we know that oligodynamic silver ions may intercept and neutralize such debris especially if it is protein in nature.^{34, 35, 36, 37}

The ability of oligodynamic silver ions to promote the sensing instincts of white blood cells appears closely linked to: (1) the kind of silver used, (2) the amount of silver used, and (3) the specific immune challenge causing irritation and conflict within your body. Interestingly, not all types of silver formulas show that they can enhance these white blood cell instincts. For example, silver ions derived from such sources as **Sovereign Silver™** appear to have this effect,³⁸ as opposed to silver ions bound within salts, such as silver lactate. ♦^{39, 40, 41}

Through your understanding, consumers of **Sovereign Silver™** will know that this nutritional supplement may help bring white blood cells to their senses to intercept and neutralize unhealthy immune risks. ♦

Sovereign Silver™ May Help Eradicate Unhealthy Immune Challenges

From all of the above enhancements available through **Sovereign Silver™**, there comes a point when there is a “collective or cumulative” effect. Beginning around 1912, British medical journals started noting silver's role in cumulative enhancements – the overall fitness level of our immune system and

white blood cells. What this all boils down to is that at the end of the day, those white blood cells concerned with tracking, intercepting and then engulfing and digesting foreign bodies and debris must do their job well.^{42, 43} Scientists refer to these collective actions as the Phagocytic Index. In fact, scientists have even worked out just how to tally and graph this “fitness score card” for the immune system’s foot soldiers – the white blood cells.

The first known tally relating to oligodynamic silver promoting the Phagocytic Index was compiled in 1919 in a retrospective report that reviewed the past 20 years of experimentation.⁴⁴ For illustration, the following table shows the effects of different colloidal metals in experiments with rabbits.⁴⁵ The benefits of silver ions are clearly established when compared to normal fitness levels of white blood cells. With silver ions, these animal studies showed that a collective immune boost of at least 24% was achieved. Imagine increasing your immunity fitness by up to 24%!

Phagocytic Index (P.I.)	P.I.	P.I.	P.I.	P.I.
Normal	With Silver	Copper	Hg	Pt
%	%	%	%	%
3.12	27.50	17.80	38.00	...
5.20	37.80	40.16	16.10	8.20

More research is needed on silver ions to confirm these marvelous immune findings in humans. Nevertheless, over the past 90 years the sum total of the scientific research is more than just suggestive, it’s *compelling!* For now, it is fair to say that when you feel the necessity to give your immune system a special edge, a real comprehensive boost, **Sovereign Silver™** may be the best nutrient source to help accomplish that job. ♦

In Conclusion

Peer-review medical journals are documenting the many ways that the active ingredient in **Sovereign Silver™** enhances immunity. ♦ Additionally, it is good to know that the medical literature cites how harmless such low concentrations of silver ions are to human and animal tissues in general.^{46, 47, 48, 49, 50} These historic and contemporary scientific discoveries will confirm **Sovereign Silver™** as one of the most important health tools of our age. ♦

♦ These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure or prevent disease.

References:

¹ Ribadeau, DL, Debré, R, *Compt rend Soc de Biol*, 1908; 65:34-7. In: Hill, WR, D Pillsbury, *Argyria: The Pharmacology of Silver*, The Williams & Wilkins Company, Baltimore, 1939; p. 48.

² Archard, CH, Weil, PE, *Arch de Méd Expér & d’anat Path*, 1907; 12:319. In: Hill, WR, D Pillsbury, *Argyria: The Pharmacology of Silver*, The Williams & Wilkins Company, Baltimore, 1939; p. 48.

³ The Council On Pharmacy and Chemistry, “Special Articles: Collargol (Crede’s Colloidal Silver) – Reports of the Committee Appointed to Consider the Claims Made Regarding Its Effects,” *JAMA*, March 13th, 1909; LII(11):867-8.

⁴ Brown, G, “Colloidal Silver in Sepsis,” *Journal of the American Association of Obstetricians and Gynecologists*, Jan, 1916.

⁵ Gros, O, O’Connor, JM, *Arch f. exper. Pathol. U. Pharm.*, 1911; 64:456-67. In: Bechhold, H, Bullowa, JGM, *Colloids in Biology and Medicine*, D. Van Nostrand Co., NY, 1919; p. 372.

⁶ Bechhold, H, Bullowa, JGM, *Colloids in Biology and Medicine*, D. Van Nostrand Co., NY, 1919; p. 371-4.

⁷ Fabroni, M, *Haematologica*, 1929; 10:89-92. In: Hill, WR, D Pillsbury, *Argyria: The Pharmacology of Silver*, The Williams & Wilkins Company, Baltimore, 1939; p. 48.

⁸ Berger, et al., “Orthopedic Electrodes: Metal and Polarity Evaluation in Short Term Marrow Culture,” *Proc 3rd Ann Mtg Soc Biomat*, 1977; p. 148.

⁹ Marino, et al., “The Effect of Selected Metals on Marrow Cells in Culture,” *Chem Biol Interact*, 1974; 9:217-23.

¹⁰ Spadaro, JA, “Silver Anode Inhibition of Bacteria,” *Proc First Int’l Conf on Gold and Silver in Med*, Bethesda, MD, May 13-14, 1987; p. 252.

- ¹¹ Jansson, G, Harms-Ringdahl, M, "Stimulating Effects of Mercuris- and Silver Ions on the Superoxide Anion Production in Human Polymorphonuclear Leukocytes," *Free Radic Res commun*, 1993; 18(2):87-98.
- ¹² Lund, E, "The Significance of Oxidation in Chemical Inactivation of Poliovirus," *Arch Ges Virusforsch*, 1963; 12:648.
- ¹³ Feng, QL, et al., "A Mechanistic Study of the Antibacterial effect of Silver Ions on Escherichia coli and Staphylococcus aureus," *J Biomed Mater Res*, March 2000; 52:662.
- ¹⁴ Thurman, RB, Gerba, CP, "The Molecular Mechanisms of Copper and Silver Ion Disinfection of Bacteria and Viruses," *CRC Critical Reviews in Environmental Control*, 1989; 18(4):302.
- ¹⁵ Samuni, A, et al., "On the Cytotoxicity of Vitamin C and Metal Ions," *Eur J Biochem*, 1983; 99:562.
- ¹⁶ Feng, QL, et al., "A Mechanistic Study of the Antibacterial effect of Silver Ions on Escherichia coli and Staphylococcus aureus," *J Biomed Mater Res*, March 2000; 52:662.
- ¹⁷ Thurman, RB, Gerba, CP, "The Molecular Mechanisms of Copper and Silver Ion Disinfection of Bacteria and Viruses," *CRC Critical Reviews in Environmental Control*, 1989; 18(4):296, 300 & 302.
- ¹⁸ Ferreyrolles, P, "Colloidal Metals in Therapeutics," *The Medical Magazine*, Selected Papers: Royal Society of Medicine, circa 1910; p. 705.
- ¹⁹ Duhamel, BG, "Electric Metallic Colloids and Their Therapeutic Applications," *The Lancet*, Jan 13, 1912; p. 29-30.
- ²⁰ Remes, A, Williams, DF, "Neutrophil Polarization and Immunoelectrophoresis Assays in the Study of Complement Activation by Biomaterials," *Biomaterials*, Aug 1991; 12(6):607-13.
- ²¹ Fabroni, M, *Haematologica*, 1929; 10:89-92. In: Hill, WR, D Pillsbury, *Argyria: The Pharmacology of Silver*, The Williams & Wilkins Company, Baltimore, 1939; p. 48.
- ²² Laubenheimer, K, "Action of Metals and Metallic Salts on Bacteria and Bacteria Toxins," *Z. Hyg. Infektionskrankh.*, 1921; 92:78. C.A., 1921; 16:3325.
- ²³ Fabroni, M, *Haematologica*, 1929; 10:89-92. In: Hill, WR, D Pillsbury, *Argyria: The Pharmacology of Silver*, The Williams & Wilkins Company, Baltimore, 1939; p. 48.
- ²⁴ Feng, QL, et al., "A Mechanistic Study of the Antibacterial effect of Silver Ions on Escherichia coli and Staphylococcus aureus," *J Biomed Mater Res*, March 2000; 52:662.
- ²⁵ Galloway, RE, et al., "Activation of Protein Mediators of Inflammation and Evidence for Endotoxemia in Borrelia recurrentis Infection," *Am J Med*, Dec 1977; 63:933-8.
- ²⁶ Bradford, Robert W, D.Sc., Henry Allen, "The HLB Blood Test as an Indicator of Oxidative Injury & Disseminated Intravascular Coagulation," *Townsend Letter for Doctors*, 911 Tyler Street, Port Townsend, WA 98368-6541, April 1995, p. 30.
- ²⁷ Morrison, DC, et. al., "The Effects of Bacterial Endotoxins on Host Mediation Systems," *American Journal of Pathology* 1978; 93:526.
- ²⁸ Pybus, PK, "The Herxheimer Reaction History," *Townsend Letter for Doctors*, 911 Tyler St., Port Townsend, WA 98368-6541, May 1991, p. 370.
- ²⁹ Meislin, HW, JC Bremer, "Jarisch-Herxheimer Reaction: Case Report," *JACEP* Oct 1976; 5:779-81.
- ³⁰ Tordi, MG, et al., "Silver Binding to Pseudomonas aeruginosa azurin," *Biol Met*, 1990; 3(2):73-6.
- ³¹ Naro, F, et al., "Metal Binding to Pseudomonas aeruginosa azurin: A Kinetic Investigation," *Z Naturforsch*, May-June 2000; 55(5-6):347-54.
- ³² Baumgarten, A, A Luger, "Oligodynamic Action of Metals on Bacterial Toxins," *Wiener Med. Wochschr.*, 1917; 30:1259.
- ³³ Erdstein, F, L Furth, "The Action of Metals on Toxins," *Biochem. Z.*, 1921; 118:256-258. C.A., 1921; 15:2887.
- ³⁴ Foa, C, Aggazzotti, A, *Biochem Zeitscher*, 1909; vol. 19. In: Bechhold, H, Bullowa, JGM, *Colloids in Biology and Medicine*, D. Van Nostrand Co., NY, 1919; p. 374.
- ³⁵ Bechhold, H, Bullowa, JGM, *Colloids in Biology and Medicine*, D. Van Nostrand Co., NY, 1919; p. 369.
- ³⁶ Müller G, Winkler Y, Kramer, A, "Antibacterial activity and endotoxin-binding capacity of Actisorb(R) Silver 220," *J Hosp Infect* 2003 Mar 53:211-4.
- ³⁷ Ersek, RA, et al. "Treatment of Spider Bite with Silver-Impregnated Porcine Xenographs," *Texas Medicine*, Nov 1985; 15:32-5.
- ³⁸ Müller G, Winkler Y, Kramer, A, "Antibacterial activity and endotoxin-binding capacity of Actisorb(R) Silver 220," *J Hosp Infect* 2003 Mar 53:211-4.
- ³⁹ Edwards-Jones, V, Foster, HA, "Effects of Silver Sulphadiazine on the Production of Exoproteins by Staphylococcus aureus," *J Med Microbiol*, Jan 2002; 51(1):50-5.
- ⁴⁰ Warden, GD, Mason, AD, Pruitt, BA, "Suppression of Leukocyte Chemotaxis *in vitro* by Chemotherapeutic Agents Used in the Management of Thermal Injuries," *Ann Surg*, Mar 1975; 181(3):363-9.
- ⁴¹ Obel, N, et al., "Methyl Mercury, Mercuric Chloride, and Silver Lactate Decrease Superoxide Anion Formation and Chemotaxis in Human Polymorphonuclear Leucocytes," *Hum Exp Toxicol*, Sept 1993; 12(5):361-4.
- ⁴² Ferreyrolles, P, "Colloidal Metals in Therapeutics," *The Medical Magazine*, Selected Papers: Royal Society of Medicine, circa 1910; p. 705 & 9.
- ⁴³ Duhamel, BG, "Electric Metallic Colloids and Their Therapeutic Applications," *The Lancet*, Jan 13, 1912; p. 90.
- ⁴⁴ Filippi, E, *Lo sperimentale*, 1908; 62:503-22. In: Bechhold, H, Bullowa, JGM, *Colloids in Biology and Medicine*, D. Van Nostrand Co., NY, 1919; p. 372.
- ⁴⁵ Bechhold, H, Bullowa, JGM, *Colloids in Biology and Medicine*, D. Van Nostrand Co., NY, 1919; p. 372.
- ⁴⁶ Berger, TJ, JA Spadaro, SE Chapin, RO Becker, "Electrically Generated Silver Ions: Quantitative Effects on Bacterial and Mammalian Cells," *Antimicrob. Age. Chemother.*, 1976; 9:357-358.
- ⁴⁷ *Handbook of Chemistry and Physics*, ed. David R. Lide, CRC Press, Boca Raton, Fl., 2000; Section 4, p. 27.
- ⁴⁸ Russell, AD, Hugo, WB, "Antimicrobial Activity and Action of Silver," *Prog Med Chem*, 1994; 31:351-70.
- ⁴⁹ Zhao, G, SE Stevens, "Multiple Parameters for the Comprehensive Evaluation of the Susceptibility of Escherichia coli to the Silver Ion," *Bio Metals*, 1998; 11:27.
- ⁵⁰ Marino, AA, et al., "The Effects of Selected Metals on Marrow Cells in Culture," *Chem. Biol. Interactions*, 1974; 9:217.