

Achieve a Healthier Immune System With Oligodynamic Sovereign Silver[♦]

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

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Introduction

The enhancement of immunity due to **Sovereign Silver** is a result of its rich bioactive silver content, scientifically termed “oligodynamic” silver. This article focuses on several ways the body uses silver hydrosol, now available through **Natural-Immunogenics Corp.**[™], for greater immune vitality.[♦]

Sovereign Silver May help Stimulate Immature Blood Cells to Become Fully-Functioning Adult Cells

In 1907, it was observed that silver administration increased 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 of noxious factors.³ The results attributed to silver remain controversial; yet nevertheless are re-confirmed. In 1916⁴ Bechhold cited evidence of oligodynamic silver promoting increases of both RBC and WBC counts just after a short yet uneventful dip in blood count.^{5, 6} In 1929, silver was found to 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}

Sovereign Silver as a Precision Tool for Healthy Immunity and Self-Defense

Hit or miss tactics of taking different supplements to build a strong immune defense are misguided. The proper solution is to use sound strategies for immune threats. So, let's get right to the issue. Such a right strategy will rely upon oligodynamic silver as the first line of defense, because it enhances the mobilization of the immune system! The oligodynamic silver in **Sovereign Silver** may actually support white blood cell defense against unwanted health risks.[♦]

To illustrate this, consider one group of internal tools that white blood cells always use, which can be thought of as ‘digestive aids’. Two such powerful aids are ‘superoxide’ and ‘hydrogen peroxide’, known more commonly to medical science as Reactive Oxygen Species - **ROS**. Several types of white blood cells rely upon hydrogen peroxide, a broad-spectrum aid. Compelling research has documented that oligodynamic silver promotes the healthy production of **ROS**.^{♦11, 12, 13} Two researchers, Thurman and Gerba, surmised as early as 1989 that oligodynamic silver supported immunity through such enhanced digestion.^{♦14, 15} The targets susceptible to this form of silver are noxious proteins, ie. unfriendly enzymes, intrusive proteins within membranes or foreign nucleic acids.¹⁶

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

Sovereign Silver May Enhance the Function of White Blood Cells to Find and Overcome Immune Risks

Over 90 years ago, several medical authors suggested that silver supported the *tracking, mobilization, recognition* and *surveillance* powers of special white blood cells.^{18,19} Scientists often

make reference to this ‘skill set’ as the Opsonic Index. Without such support, much of the immune system would be blind. In effect, silver ions appear to improve the ‘sight’ of white blood cells. Recent studies, not yet reported, are confirming the exciting role that oligodynamic silver may play. For example, silver may “prime” white blood cells to go on the offensive.^{20, 21}

The sensing mechanisms of another group of defensive white blood cells are also boosted by oligodynamic silver; for example, aiding the clashes and skirmishes the immune system must go through in its self-defense.^{22, 23, 24} These clashes and skirmishes leave behind debris and some of it will still be irritable to the immune system.^{25, 26, 27} Thus, temporary symptoms may arise for consumers of **Sovereign Silver**, what scientists refer to as the Jarisch-Herxheimer (JH) Effect.^{28,29} When such symptoms do arise, it’s good to know that silver may also aid in the clean-up phase of such debris.^{30, 31, 32, 33} For example, we know that oligodynamic silver ions intercepts and neutralizes such debris if it is protein in nature.^{34, 35, 36, 37}

The ability of oligodynamic silver ions to enhance 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 the body. Interestingly, not all types of silver formulas show that they enhance these white blood cell instincts. Whereas the silver ions derived from **Sovereign Silver** appear uniquely to have this effect,³⁸ as opposed to silver ions bound within salts, such as silver lactate.^{39, 40, 41}

Sovereign Silver Stimulates Overall Fitness of Immune System

With Sovereign Silver 23, the benefit is a “collective or cumulative” effect. Beginning around 1912, British medical journals started noting that silver played a cumulative role in the overall fitness of our immune system and its white blood cells. The white blood cells concerned with tracking, intercepting, 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 footsoldiers.

The first known tally relating to oligodynamic silver promoting the Phagocytic Index was compiled in 1919 in a retrospective report following 20 years of experimentation.⁴⁴ As an 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 the normal levels of white blood cells. With silver ions, the studies showed a collective immune boost of at least 24% was achieved. Imagine the benefit of increasing immune 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

Research with silver ions is clearly needed to confirm these findings in humans. Nevertheless, over the past 90 years the sum of scientific research is more than just suggestive, it’s *compelling!* For now, it can be simply stated that **Sovereign Silver** gives the immune system an edge, a comprehensive boost, and may be the best supplemental source to accomplish that job. ♦

In Conclusion

A peer-reviewed medical journals is now documenting how the active ingredient in **Sovereign Silver** enhances immune defenses. ♦ Additionally, that such qualities are complemented with medical literature that cites the harmlessness of such low concentrations of silver ions in general.^{46, 47, 48, 49, 50} Such 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 any 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.

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- 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.