# FREEDOM FREEDOM















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## **DEADLY ANTIOXIDANTS**

Why Your Daily Vitamins May Be Causing Cancer and Shortening Your Life and How Nrf2 Can Turn on Your Body's Own Antioxidants for Optimal Health

SHAWN TALBOTT, PH.D.



A Life Vantage. | ELITE ACADEMY

### **BROCHURE COMBO PACK**



- 25 The Cancer Breakthrough
- 25 The Nervous System Breakthrough
- 25 The Cardiovascular Breakthrough
- 25 The Skin Health Breakthrough FUTE ACADEMY I JAN 29-31 2015
- 25 The Canine Breakthrough



# LifeVantage Lab Series



- NEW Episode 1
  - Product Overview w/Axio
- NEW Webinars
  - Bi-monthly science topics
  - March 4

















# Stress / Balance is Hot

TEDxSandy – April 2014
The 431 Project – Sept 2014
ACLM – Oct 2014
A4M – Dec 2014
Biochemical Society – Jan 2015
Experimental Biology – March 2015
Philippine Heart Association – May 2015
NIH Healthy Aging Summit – July 2015
www.ShawnTalbott.com



## **Causes of Oxidative Stress**

**Smoking** 

Diet

OXIDATIVE

Medication & Treatments

Air & Water Pollutants

Fast Foods [McDonald's]

Stress



STRESS!

Alcohol

**Pesticides** 

**Exposure to Toxins** 

Inadequate Intake of Fruits & Vegetables

Contaminants

Excessive Exercise

Lack of Good Nutrition

Inadequate amounts of physical activity

Just about everything we do results in oxidation (or inflammation) producing potentially damaging free radicals!



#### Vitamin E and the Risk of Prostate Cancer

1150

The Selenium and Vitamin E Cancer Prevention Trial (SELECT)

Eric A. Klein, MD Ian M. Thompson Jr, MI Catherine M. Tangen, DrPH John J. Crowley, PhD M. Scott Lucia, MD Phyllis J. Goodman, MS Lori M Minasian MD Leslie G. Ford, MD Howard L. Parnes, MD L Michael Gaziano, MD, MF Daniel D. Karp, MD Michael M. Lieber, MD. Philip J. Walther, MD, PhD Laurence Klotz, MD J. Kellogg Parsons, MD, MH Joseph L. Chin, MD Amy K. Darke, MS Scott M. Lippman, MD Gary F. Goodman, MD Frank L. Meyskens Jr, MD Laurence H. Baker, DO

IFETIME RISK OF PROS cer in the United Sta rently estimated to be though most cases ar an early, curable stage, tre costly and urinary, sexual, a related adverse effects are related adverse effects are c Even men who choose activ lance as an initial managem egy face anxiety, uncertain p and a measurable risk of sepsi low-up biopsies, 3 and more are ultimately treated.45 Wi

Author Video Interview ava www.iama.com.

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JOHN BALMES, M.D., MARK R. CULLEN, M.D., ANDREW GLASS, M.D., JA Frank L. Meyskens, Jr., M.D., Barbara Valanis, Dr.P.H., James H. Scott Barnhart, M.D., M.P.H., and Samuel Hammar,

Abstract Background: Lung cancer and casdrosses clair diseases are major causes of death in the United States. It has been proposed that cardenoids and released are agents that may provent these disorders.

States. It has been proposed that cardenoids and released to the control of the cardenoids and released to the cardenoids and released

LUNG cancer is the leading cause of death from cam-ment of the control of the control of the control of the control of deaths from cancer and 6 percent of all deaths. New approaches are essential to prevent lung cancer in persons who have smooded clagorates or who have had occupational exposure to asbestos. Twen-ty-nine percent of men and 25 percent of women who are \$0 to \$0 years of age currently smoke," and at least and the control of the control of the control of the control of the group are former smokers. An estimate 4000 to 8000 deaths from lung cancer per year are attributed to ex-posure to asbestos.

Dosure to a bestoon, so described the description of the basis of epidemiologic observations and laboratory studies, beta carotene and vitamin A have attracted wide interest as agents that may prevent lung cancer, so "He Beta-Carotene and Retino Efficacy Trial (CARET) is one of several recent trials to assess the

From the Division of Public Health Sciences, Prof. Hashinoon Cascor Re-research Land Conference and Conference Conferenc

THE NEW ENGLAND JOURNAL OF MEDICINE

#### EFFECTS OF A COMBINATION OF BETA CAROTENE AND VITAMIN A CARDIOVASCULAR DISEASE

GILBERT S. OMENN, M.D., PH.D., GARY E. GOODMAN, M.D., M.S., MARK

chemopreventive efficac and related agents. 10-13 This report presents CARET study, which coi of the steering committee to stop the trial's active ditional end points is ex five years. five years.

The New England Journal of Medicine
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Copyright 6: 1956 Messachusets Medical Society. All rights reserved.

#### Study Design

The study's strategy, design study findings, and recruitment where 34-18 Briefly, CARET w domization in Seattle in 1985 men with substantial occupati randomly assigned in a 1:1 rs 15 mg of beta carotene per da tive treatment) or placebo; the

ther visuain free-by-rose deap additional study centers in 198 downly assigned in a 1st ratio damp assigned in a 1st ratio damp assigned in a 1st ratio and the study assigned in a 1st ratio and the study assigned in a 1st ratio as single group receiving a standard daily regimen of 50 mg ob beta caroner plus 22,000 IL of retinol is the form of retinip lamb tame. Thus, in the plus study with the color of moders, there as the color of the study as the color of moders, there are place than the study of the study as the stud

Workers exposed to asbestos were men 45 to 74 years of age is the pilot study and 45 to 69 years of age in the later period of re

Incidence in the Alpha-Tocopherol, Beta-Carotene Cancer Prevention Study: Effects of Base-line Characteristics and Study Compliance

 $\alpha$ -Tocopherol and  $\beta$ -Carotene Supplements and Lung Cancer

Demetrius Albanes, Olli P. Heinonen, Philip R. Taylor, Jarmo Virtamo, Brenda K. Edwards. Matti Rautalahti, Anne M. Hartman, Juni Palmgren, Laurence S. Freedman Jaason Haapakoski, Michael J. Barrett, Pirjo Pietinen, Nea Malila, Eero Tala, Kari Liippo Eija-Riitta Salomaa, Joseph A. Tangrea, Lyly Teppo, Frederic B. Askin, Eero Taskinen, Yener Erozan, Peter Greenwald, Jussi K. Huttunen\*

The Journal of Mutrition

Background: Expe

suggest that α-toco of vitamin E found

other foods) and

precursor of vitar dark-green, leafy the risk of cancer,

ings of the Al Prevention Study lung cancer incic who received β-c:

were recently repo ficacy Trial (CAI carotene and vita of α-tocopherol a

cidence of lung c

age, number of ci status, and alcoho in relation to clin

tologic type. Ou whether the patter

could facilitate fu Study results and

tion and relevar

or more cigaret receive α-tocoph tocopherol and β (median, 6.1 years

factors for lung ca

study entry, along tocopherol and β-= 894) were identi

and death certifica pendently confirm able for 94% o evaluated by use hazards models.

1560 ARTICLES

#### **Antioxidant Supplementation Increases the** Risk of Skin Cancers in Women but Not in Men<sup>1</sup>

Serge Hercberg,<sup>2,1</sup>\* Khaled Ezzedine,<sup>2,4</sup> Christiane Guinot,<sup>5,6</sup> Paul Preziosi,<sup>2</sup> Pilar Galan,<sup>2</sup> Sandrine Bettrais,<sup>2</sup> Carla Estaquio,<sup>2</sup> Serge Briançon,<sup>7</sup> Alain Favier,<sup>8</sup> Julie Latreille,<sup>5</sup> and Denis Malvy<sup>9</sup>

<sup>3</sup> DAS AUT Form ULI 31 Intel ADAID Count bins. Part 1 Is, Sering, Parts 19817; White A formillance of Finding-International Count bins. Parts 1 Intelligence of Parts and Parts 1 Intelligence of Parts 1 Intelligence Of Parts 2 Intelligence Office of Parts 2 Intelligence Office Office of Parts 2 Intelligence Office Of

educe the risk of skin cancers (SC). It was performed within the framework of the Supplementation in Vitamins and Mineral Antioxidants study, a randomized, double-blinded, placebo-controlled, primary prevention trial testing the efficacy of nutritional doses of antioxidants in reducing incidence of cancer and ischemic heart disease in the general population French adults (1876 women and 5141 man) were randomized to take an orall daily capsule of antioxidants (1920  $\mu$ ) and  $\mu$ ) were randomized to take an orall daily capsule of antioxidants (1920  $\mu$ ) and  $\mu$ ) are the following vitamin E, 6 mg  $\mu$ -carotene, 100  $\mu$ g selenium, and 20 mg zinc) or a matching placebo. The median time of follows up was 7.5 y. A total of 157 cases of all types of SC were reported, from which 25 were melanomas. Because the effect of antioxidiants on SC incidence varied according to gender, men and women were analyzed separately. In women, the incidence of SC was higher in the antioxidiant group leafuncted hazard ratio factuated HFM = 1.88, P = 0.03. Conversely, in men, incidence did not differ between the 2 treatment groups featured HFM = 0.08, P = 0.11. Separate the small number of events, the incidence of melanoma was also higher in the antioxidant group for women (adjusted HB = 4.31; P = 0.02). events, the incoence of meanorms was also ingrief in the antioxolonit group for women laugusted H $\pi = 4.31$ ; P = 0.02. The incidence of nonmelanorms SC did not differ between the antioxident and placebo groups (adjusted HR = 1.37; P = 0.22 for women and adjusted HR = 0.72, P = 0.19 for men). Our findings suggest that antioxident supplementation affects the incidence of SC differentially in men and women. J. Nutr. 137: 2089-2105, 2007.

#### Introduction

Melanoma and nomenlaroma skin cancers (SC<sub>s</sub>). In amoly squaremous educations (SCC) and basal cell carcinoma (BCC), are the most common forms of analigancy in the Gaussian population (1) and un exposure is shought to be the main established more interest to the cancer of the Gaussian population (1) and un exposure is shought to be the main established more interest exposure to VI ray due to the delicion of the common layer, and sun exposure habits would appear to favor a higher incidence of kim miligrancy (3).

Numerous studies have demonstrated the role of reactive and the potential protective effect of anticodiant (4). Formation and the potential protective effect of anticodiant (4). Formation of the common studies of the common studies of the common studies and the potential protective effect of anticodiant (4). Formation of the common studies of the common studies and the potential protective effect of anticodiant (4). Formation (2) and the potential protective effect of anticodiant (4). Formation (3) and the potential protective effect of anticodiant (4). Formation (4) and the potential protective effect of anticodiant (4). Formation (4) and the potential protective effect of anticodiant (4). Formation (4) and the potential protective effect of anticodiant (4). Formation (4) and the potential protective effect of anticodiant (4). Formation (4) and the potential protective effect of anticodiant (4). Formation (4) and the potential protective effect of anticodiant (4). Formation (4) and the potential protective effect of anticodiant (4). Formation (4) and the potential protective effect of anticodiant (4). Formation (4) and the potential protective effect of anticodiant (4). Formation (4) and the potential protective effect of anticodiant (4). Formation (4) and the potential protective effect of anticodiant (4). Formation (4) and the potential protective effect of anticodiant (4). Formation (4) and the potential protective effect of anticodiant (4). Formation (4) and the potential protective effect of antico Melatoma and nomelations akin cancers (SC), <sup>10</sup> namely squa-mona cell carcinoma (SCC) and based cell carcinoma (SCC), are latino (1) and use consume the cell carcinoma (SCC), are latino (1) and use capours in shought to be the main established risk factor for all 3 types of tumor (2). An aging population, more intense exposure to 10' my due to depleation of the camer more intense exposure to 10' my due to depleation of the camer to the consumer to the consumer to the consumer to the con-traction of the main caponic of the con-traction of the main caponic of the con-traction of the main caponic of the con-traction of the con-

0022-3166/07 \$8.00 © 2007 American Society for Nutritio
Manuscript received 28 February 2007. Initial review completed 21 March 2007. Revision accepted 22 June 200

of free radicals in the skin can be enhanced by UV:

#### Annals of Internal Medicine

NIH CONFERENCE

gastric cancer and the overall mortality rate from cancer by 13 % to 21%. In a French trial, combined supplementation with vitamin C, vitamin E, B-carotene, selenium, and zinc reduced the rate of cancer by 31% in men but not in women. Multivalimal and mineral supplements had no significant effect on cardiovascular disease

ORIGINAL INVESTIGATION

#### The Efficacy and Safety of Multivitamin and Mineral Supplement Use To Prevent Cancer and Chronic Disease in Adults: A Systematic Review for a National Institutes of Health State-of-the-Science Conference

Han-Yao Huang, PhD, MPH; Benjamin Caballero, MD, PhD; Stephanie Chang, MD; Anthony J. Alberg, PhD, MPH; Richard D. Semba, MD, MPH; Christine R. Schneyer, MD; Rence F. Wilson, MSc; Ting-Yuan Cheng, MSc; Jason Vassy, MPH Crepory ProSpowlork; MD, MPH; Ceorge J. Barnes II, BA; and Eric B. Bass, MD, MPI.

Background: Multivitamin and mineral supplements are the most commonly used dietary supplements in the United States.

Purpose: To synthesize studies on the efficacy and safety of multin/mineral supplement use in primary prevention of cancer

and chronic

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Study Selective viewed to observations safety. Data Extra

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LESS IS MORE Dietary Supplements and Mortality Rate

in Older Women The Iowa Women's Health Study

Jaakko Mursu, PhD; Kim Robien, PhD; Lisa J. Harnack, DrPH, MPH; Kyong Park, PhD; David R. Jacobs Jr, PhD

**Background:** Although dietary supplements are commonly taken to prevent chronic disease, the long-term health consequences of many compounds are unknown. Multi States (1) Examinati

Methods: We assessed the use of vitamin and mineral supplements in relation to total mortally in 38 772 older women in the low Women's Health Suby, mean age was 61.6 years at baseline in 1966. Supplement use was self-reported in 1966, 1997, and 2004. Through December 131, 2008, a total of 15 594 deaths (40.2%) were identified through the State Health Registry of Iowa and the National Death Index. quate inta monly us supplement Many cluding ci style, and these facto

Results: In multivariable adjusted proportional hazards regression models, the use of multivitamins (hazard ratio, 10.6) 99% C.1, 102-1.10, absolute risk increase, 2.4%), vitamin B, (1.10; 1.01-1.21; 4:1%), folic acid (1.15; 1.00-1.21; 4:1%), folic acid (1.15; 1.00-1.22; 5:4%), iron (1.10; 1.03-1.17; 3:9%), magnesium (1.08; 1.01-1.15; 3.6%), zinc (1.08; 1.01-1.15; 3.0%), and cop-

per (1.45; 1.20-1.75; 18.0%) were associated with in-creased risk of total mortality when compared with corre-sponding nonuse. Use of calcium was inversely related (hazard ratio, 0.91; 95% confidence interval, 0.88-0.94; absolute risk reduction, 3.8%). Findings for iron and calcium were replicated in separate, shorter-term analyses (10-year, 6-year, and 4-year follow-up), each with approximately 15% of the original participants having died, starting in 1986,

**Conclusions:** In older women, several commonly used dietary vitamin and mineral supplements may be associated with increased total mortality risk; this association is strongest with supplemental iron. In contrast to the findings of many studies, calcium is associated with

Arch Intern Med. 2011;171(18):1625-1633

damage, i

Author Affiliations: Department of Health Sciences, Institute of Public Health and Clinical Nutrition, University of Clinical Nutrition, University of Eastern Finland, Kuopio Campus, Kuopio, Finland (Dr Mursu); Division of Epidemiology and Community Health, School of Public Health. University of Mini Robien, Harnack, and Jacobs); Iniversity, Gyeongbuk, tepublic of Korea (Dr Park);

dietary supplements has in-creased substantially during the past several decades,1-3 reaching past several decades, <sup>1</sup> reaching in 2000, with annual sales of more than \$20 billion. <sup>1</sup> \$85, wis size recent of women participating in the lowa Women's Health Study' used at least 1 dietary supplement daily in 1986 at an average age of \$2 years; 12004, the proportion increased to \$5%. Moreover, 27% of women reported using 4 or more supplemental products in 2004. At the population level, dietary supple-ments contributed substantially to the total intake of several nutrients, particularly in elderly individuals.1,2

elderly individuals. "2"
Supplemental nutrient intake clearly is beneficial in deficiency conditions. "However, in well-nourished populations, supplements often are intended to yield benefit by preventing chronic diseases. Results of

epidemiologic studies59 assessing supplement use and total mortality risk have been inconsistent. Several randomized con-trolled trials (RCTs), 10,11 concentrating mainly on calcium and vitamins B, C, D, and E, have not shown beneficial effects of

#### See Invited Commentary and Editor's Note

dictary supplements on total mortality rate; in contrast, some <sup>3,3</sup> have suggested the possibility of harm. Meta-analyses <sup>3,4</sup> contents and the contrast of the contrast of the contrast contrast are widely used, and further studies regarding their health effects are needed. Also, little is known about the long-term effects of multivitamin use and less commonly used supplements, such as iron and other minerals.

ARCH INTERN MED/VOL 171 (NO. 18), OCT 10, 2011 WWW.ARCHINTERNMED.COM

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# Circulation

Heart Failure

Chronic Pulmonary Artery Pressure Elevation Is Insufficient to Explain Right Heart Failure

Harm J. Bogaard, MD. PhD\*: Ramesh Natarajan, PhD\*: Scott C. Henderson, PhD:

Free Radical Biology & Medicine 50 (2011) 700-709

Contents lists available at ScienceDirect

Free Radical Biology & Medicine

journal homepage: www.elsevier.com/locate/freeradl

ке Original Contribution

Protandim attenuates intimal hyperplasia in human saphenous v ex vivo via a catalase-dependent pathway

Binata Joddar a,b,c, Rashmeet K. Reen b,d, Michael S. Firstenberg e, Saradhadevi Varadl Jay L. Zweier b, Keith J. Gooch a,b,\*

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- Department of somerecaute ingenereuin, the Onds state University, Columbius, 047-1210, CoX
   Abuss Heart of Lang Research Institute. The Olds State University, Columbius, 047-1210, CoX
   RIEXIN Nanomedical Engineering Laboratory, Wildo-shi, Sattema 354-0193, Ippon
   Popurtment of Surgey, The Olds State University, Columbius, 047-1210, USA
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ARTICLE INFO

Article history: Received 26 August 2010 Revised 7 December 2010 Accepted 8 December 2010 Available online 15 December 2010

Scavenging enzymes Catalase Human saphenous veins

Human saphenous veins (HSVs) are widely used for bypass grafts desp patency. To evaluate the role of reactive oxygen species (ROS) signaling stage pathology of vein-graft disease, and to explore the potential th endogenous antic

model of HSV IH.

~3.6-fold increase catalase activity by during Skin Carcinogenesis

cultured HSV and Delira Robbins<sup>1</sup>, Xin Gu<sup>2</sup>, Runhua Shi<sup>6</sup>, Jianfeng Liu<sup>1</sup>, Fei Wang<sup>3</sup>, Jacqulyne Ponville<sup>4</sup>, Joe M. McCord<sup>5</sup> Yunfeng Zhao1\*

2 Department of Pathology, Louisians State University Neith Science Cortex, Serveyort, Louisian, United States of America, Science College of the Science, All Intellects of America, Serveyord, College of the Science, All Intellects of America, Serveyord, College of the Science, America, Serveyord, Evaluation, Serveyord, College of College

(10) Patent No.:

(12) United States Patent Myhill et al.

COMPOSITIONS FOR ALLEVIATING INFLAMMATION AND OXIDATIVE STRESS IN A MAMMAL

William J. Driscoll, Englewood, CO

(73) Assignce: Lifeline Nutraceuticals Corporation,

Subject to any disclaimer, the term of this

Al-Shner, "C-Reactive Protein and 2004; vol. 291, No. 23: pp. 2818-2 Andersos, et al., "Differential Part Cells to Induction of Apoptosis by V E Analogue, et al., "Reduced RBC Verse, Rakker, et al., "Reduced RBC Verse, Barbona, et al., "Decreased Oxidati-riative Colitis Supplemented with airve Colitis Supplemented with Battleburge et al. "Amicovidant

(45) Date of Patent:

Bhattacharya, et al., "Antioxidant from Withania sominfera," Ind. J. 236,230

#### Associa Protandim, a Fundamentally New Antioxidant Approach in Chemoprevention Using Mouse Two-Stage Skin Carcinogenesis as a Model

Jianfeng Liu<sup>1</sup>, Xin Gu<sup>2</sup>, Delira Robbins<sup>1</sup>, Guohong Li<sup>3</sup>, Runhua Shi<sup>4</sup>, Joe M. McCord<sup>5</sup>, Yunfeng Zhao<sup>1+</sup>

Togesterner of Pharmacology, Todology & Neuroscicons, Louisian State University Intells Sciences Centre, Diversity Countries, United States of America. Department of Particupy, Jouannia State University Hamis Econosis Centre, Streegor, Louisians, United States of America, April Streegor, Louisians, Department of Processingery, Louisians, State University Hamis Econosis Centre, Streegor, Louisians, Louisians, Louisians, States University Hamis Econosis Centre, Streegor, Louisians, Louisians, Louisians, States University of Cosposity, Ford Streegor, Louisians, Louisians, Louisians, States University of Cosposition (Louisians, Louisians, Louis

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Learn

Obtained stress is an important contributor to cancer development. Consistent with that, antioxidant enzymes have been demonstrated to suppress tumorigenesis when being elevated both in vitro and in vivo, making induction of these enzymes have been demonstrated to suppress tumorigenesis when being elevated both in vitro and in vivo, making induction of these enzymes have been shown in onder supervoiced eigeneration and lipid peroxidation in healthy human subjects. To investigate whether Protandim can suppress tumor formation by a deletal peroxidation in healthy human subjects. To investigate whether Protandim can suppress tumor formation by a deletal perioxidation in healthy human subjects. To investigate whether Protandim can suppress tumor formation by a deletal period of the similar body weight compared with those on the bead diet which indicated no over toxicity by addition to the increase in SDD schildless. The protandim-containing basel diet had similar body weight compared with those on the bead diet which indicated no over toxicity by addition to the increase in SDD schildless. Importantly, at the end of the catchongenesis study, both sink tumor incidence and multiplicity were reduced in the mice on the Protandim diet by 31% and 51% respectively, compared with those on salad idle. Blockmenical and histological studies revealed that the Protandim diet suppress tumor promoterior-induced oxidative stress (evidenced by reduction of protein cathonyl levels), cell profileration felidenced by reduction of anticodate enzymes by Protandim express to NF-48 beinding activity, and nuclear p65/510 levels). Lovela, induction of anticodate enzymes by Protandim express to NF-48 beinding activity, and nuclear p65/510 levels). Lovela, induction of anticodate enzymes by Protandim expression. NF-48 beinding activity, and nuclear p65/510 levels. Lovela, induction of anticodate enzymes by Protandim expression, NF-xB binding activity, and nuclear p65/p50 levels). Overall, induction of antioxidant enzymes by Protandin may serve as a practical and potent approach for cancer prevention.

> The Dietary Supplement Protandim<sup>®</sup> Decreases Plasma Osteopontin and Improves Markers of Oxidative Stress in Muscular Dystrophy Mdx Mice

> > Muhammad Muddasir Qureshi, MD, MPH

Warren C. McClure, MS Nicole L. Arevalo, MA Rick E. Rabon, BA Benjamin Mohr Swapan K. Bose, BS, BPharm Joe M. McCord, PhD Brian S. Tseng, MD, PhD

PLos one

Protandim, a nutt enzymes in severa The Chemopreventive Effects of Protandim: Modulation isolated HSV. Proi of p53 Mitochondrial Translocation and Apoptosis 1 chil ved in

Abstract

Protandim, a well defined dietary combination of 5 well-established medicinal plants, is known to induce endogenous antioxidant enzymes, such as manganese superoxide dismutase (MinSOD). Our previous studies have shown through the induction of various antioxidant enzymes, products of oxidative damage can be decreased in addition, we have shown that discussion of the control of the control oxidation oxida



PLoS one

Contents lists available at ScienceDirect

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journal homepage: www.elsevier.com/locate/freeradbiomec



Original Contribution

Synergistic induction of heme oxygenase-1 by the components of the antioxidant supplement Protandim

Kalpana Velmurugan a,b, Jawed Alam c, Joe M, McCord d, Subbiah Pugazhenthi a,b,\*

ELSEVIER

ARTICLE INFO



SCIENCE CO DIRECT.

Free Radical Biology & Medicine 40 (2006) 341 - 347



Original Contribution

The induction of human superoxide dismutase and catalase in vivo: A fundamentally new approach to antioxidant therapy

Sally K. Nelson a,b, Swapan K. Bose a, Gary K. Grunwald c, Paul Myhill d, Joe M. McCord a,b,d,\*

\* Webb-Waring Institute for Cancer, Aging and Antioxidant Research, University of Colorado Denver Health Sciences Center, Denver, CO 80262, USA ment of Medicine, University of Colorado Denver Health Sciences Center, Denver, CO 80262, USA nutive Medicine and Biometrics, University of Colorado Denver Health Sciences Center, Denver, CO 80262, USA <sup>8</sup> Lifeline Therapeutics, Donver, CO, USA

Received 22 June 2005; revised 24 August 2005; accepted 28 August 2005

Abstract

A composition consisting of extracts of five widely studied medicinal plants (Protandim) was administered to healthy human subjects ranging in age from 20 to 78 years. Individual ingredients were selected on the basis of published findings of induction of superoxide dismutase (SOD) and/or catalase in roderin is rivive, combined with revidence of decreasing lipid peroxidation. Each ingredient was present at a dosage sufficiently tow to avoid any accompanying unwanted pharmacological effects. Blood was analyzed before supplementation and after 30 and 120 days of supplementation (675 mg/day). Erythrocytes were assayed for SOD and catalase, and plasma was assayed for lipid peroxidation products a stances (TBARS), as well as uric acid, C-reactive protein, and cholesterol (total, LDL, and HDL). Before

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#### Molecular Aspects of Medicine

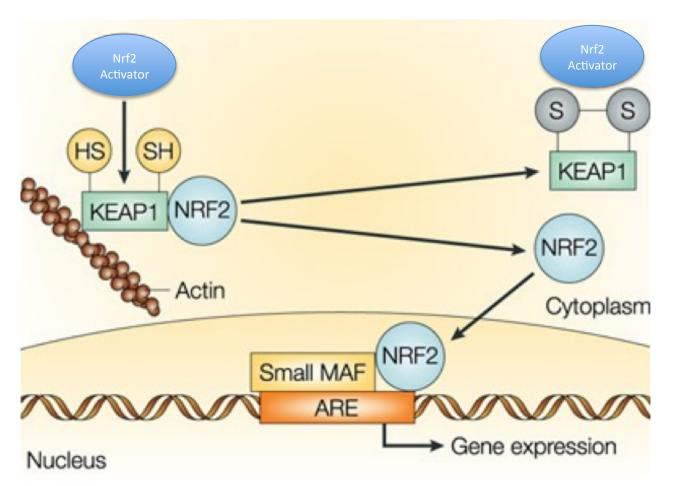
journal homepage: www.elsevier.com/locate/mam



#### Oxidative Stress in Health and Disease: The Therapeutic Potential of Nrf2 Activation

Brooks M. Hybertson, a,b Bifeng Gao, a Swapan K. Bosea and Joe M. McCorda,b

Department of Medicine, Division of Pulmonary Science and Critical Care Medicine, University of Colorado at Denver, Aurora, CO 80045 bLifeVantage Corporation, 10813 S. Riverfront Parkway, South Jordan, UT 84095

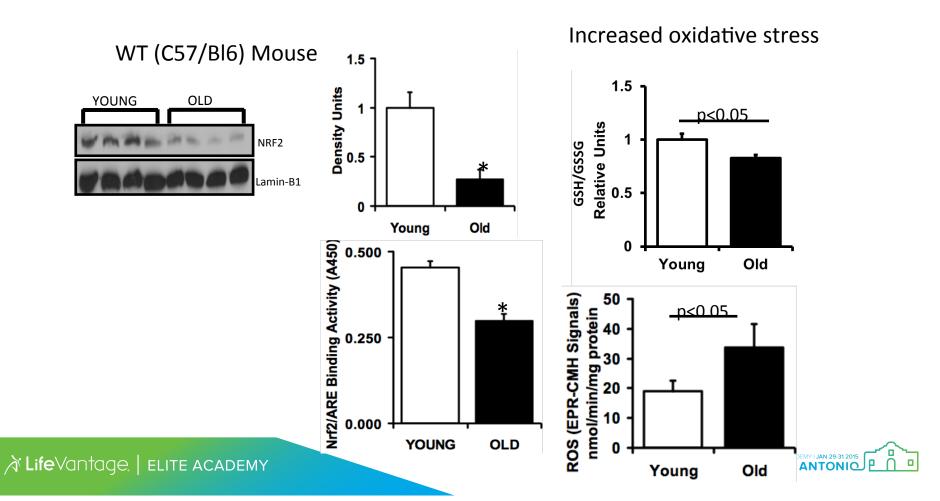




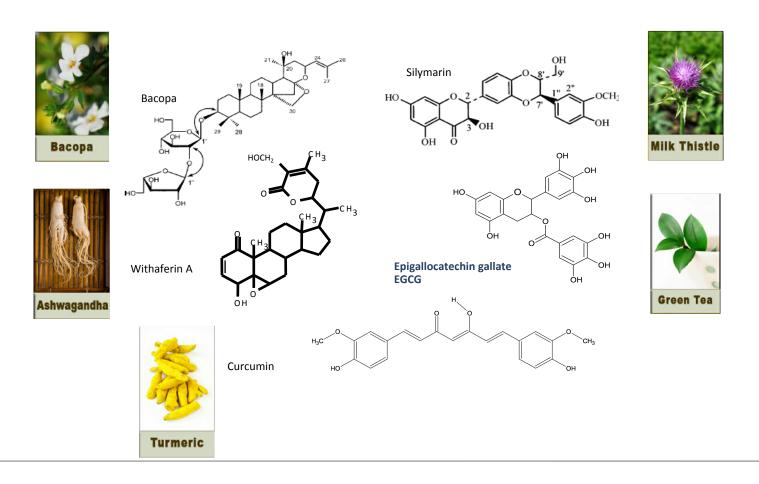
# Don't *Take* Antioxidants *Make* Antioxidants!

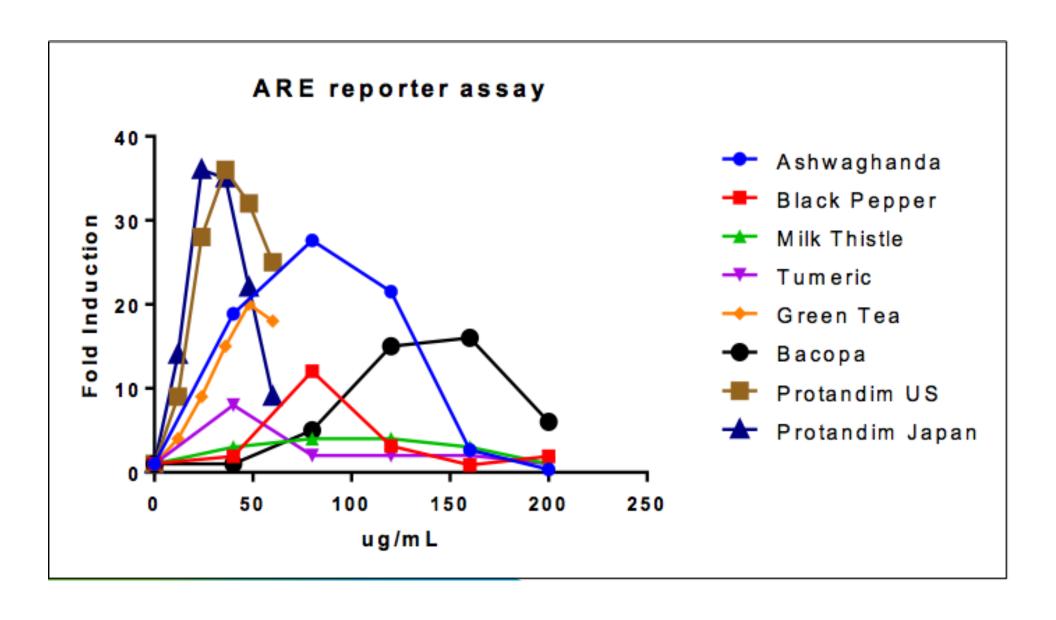


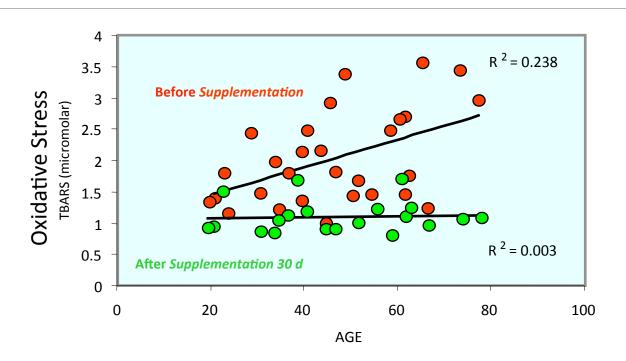
## Nrf2 Declines with Age and Induces Oxidative Stress



## Nrf2 = a powerful "master regulator" of antioxidant enzymes and survival genes





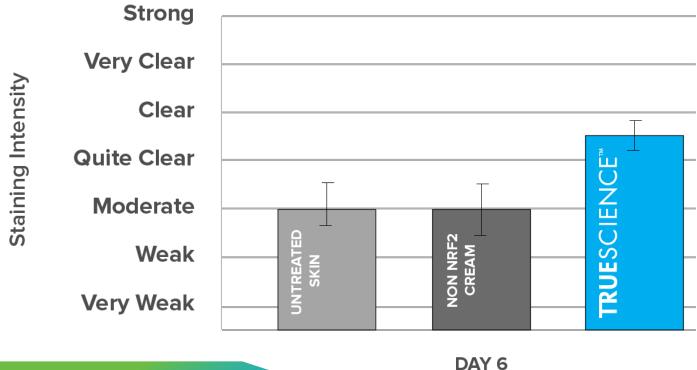


After 30 days...

"Remarkably, this age-dependent increase in TBARS was almost completely abolished by Protandim treatment (Fig. 1D), with an overall average reduction of the oxidative stress marker by 40%."

## Nrf2 Staining Intensity 24 hours after UV Exposure

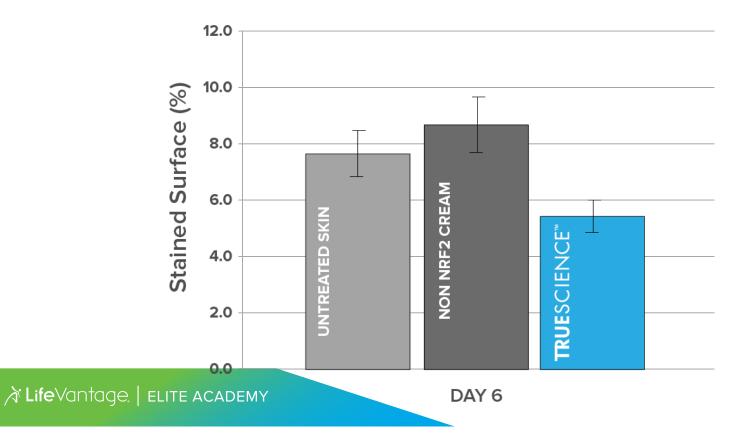
TrueScience™ Facial Cream results in more Nrf2 in skin, thus more protection!





## Less Thymine Dimers with TrueScience

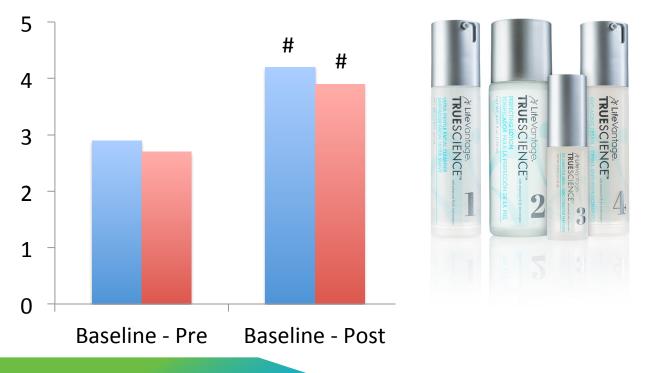
TrueScience™ Facial Cream with Nrf2 protects the cell DNA!





## Shaving – Irritation

0 = None / 2-3 Mild / 4-5 Moderate / 8-9 Severe



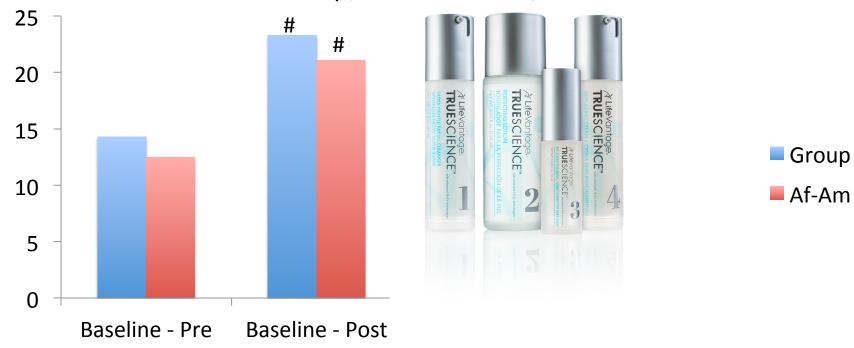
■ Group ■ Af-Am



À Life Vantage. | ELITE ACADEMY

## Shaving – Barrier Function

TEWL — trans-epidermal water loss (higher = more damage)
5-12 Healthy / 13-16 Strained / 17+ Critical



ELITE ACADEMY I JAN 29-31 2015
SAN ANTONIO

# FEEL Your Best...



Tired, Stressed, Depressed... "Off"



À Life Vantage. | ELITE ACADEMY

#### **SUPPLEMENT FACTS** Serving Size: 1 Packet Serving Per Pouch: 30 Amount Per Serving % DV Calories 10 Total Carbohydrate 2g <1%\* Niacin (as Nicotinic Acid) 24 mg 120% Vitamin B6 (as Pyridoxine HCL) 1.60 mg 80% Vitamin B12 (as Methylcobalamin 6 mcg 100% Magnesium (as Magnesium Aspartate) 10 mg 2% Caffeine 100 mg Proprietary Blend 500 mg **DMAE Bitartrate**

\*% Daily Value are based on a 2,000 calorie diet. † Daily Value not established

Proanthocyanidin

Quercetin Dihydrate

L-Theanine

Green Tea Extract (Camellia sinensis) (Aerial)

Monterey Pine Extract (Pinus radiata) (Bark)

### **SUPPLEMENT FACTS**

Serving Size: 1 Packet Serving Per Pouch: 30

	Amount Per Serving	% DV
Calories	15	
Total Carbohydrate	3 g	1%*
Niacin (as Nicotinic Acid)	20 mg	100%
Vitamin B6 (as Pyridoxine H	CL) 1.60 mg	80%
Vitamin B12 (as Methylcoba	lamin 6 mcg	100%
Magnesium (as Magnesium)	Aspartate) 10 mg	2%
Proprietary Blend	280 mg	
Green Tea Extract (Camellia sinensis) (Aerial)		†
Monterey Pine Extract (Pinus radiata) (Bark)		†
L-Theanine	953.58	t
Quercetin Dihydrate		t

\*% Daily Value are based on a 2,000 calorie diet.

† Daily Value not established



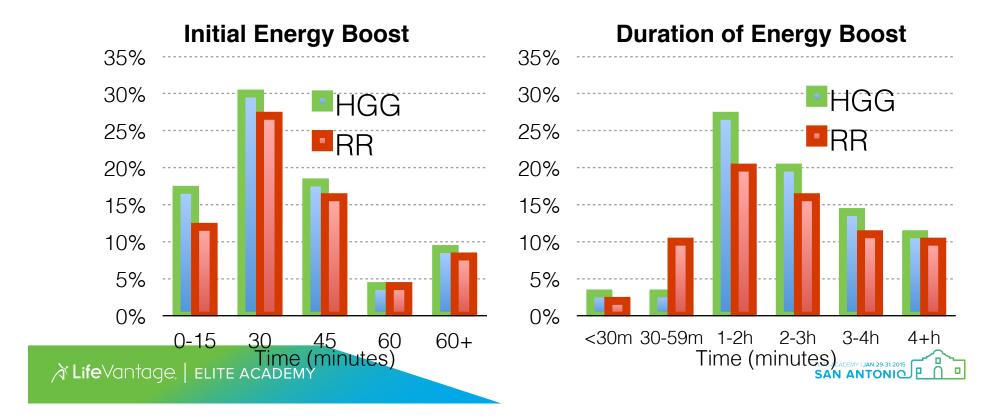
$$HO \longrightarrow NH_2 \longrightarrow N$$

L-Theanine



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# **Axio Usage Survey**



# Axio Usage Survey







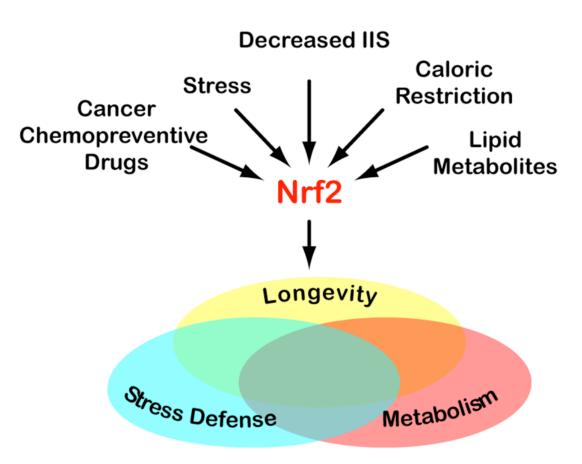




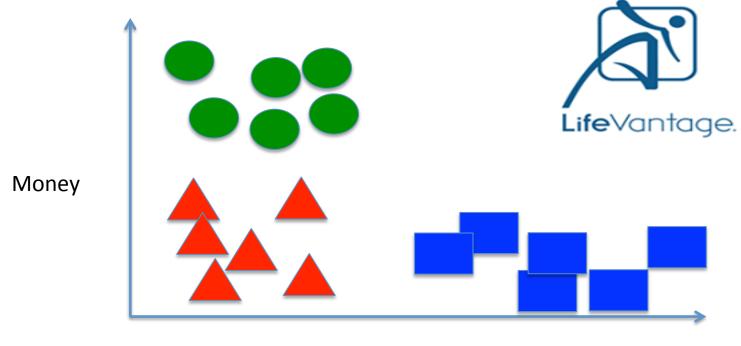


Nrf2 as a

Convergence Point
for Stress,
Metabolic, and
Longevity Signals







Health

## **LifeVantage Value Proposition**

Unmatched opportunity to build an independent health business



