



ANTI-AGING SCIENCE

Rather than rely on testimonials for evidence, we rely on scientific literature & scientific studies.

Please take a moment to view our impressive list of scientific studies

HOW ARE OUR PRODUCTS DIFFERENT ?

Our products target and positively & youthfully shift large groups of genes in our DNA that control different aspects of aging. Featured on the Discovery Channel, plus numerous patents & published articles our products target the genetic sources of aging. Unlike EVERY other competitor product, our products target up to 1,000's of genes, instead of single genes, to provide the most youthful results for your body, cells and skin.

SCIENTIFIC CREDIBILITY

A world-renowned Scientific Advisory Board representing top Research Universities & Scientific Learning Institutions around the globe work with our Scientific Management Team of Ph.D. scientists who also lead over 75 of our full time in-house scientists.

WE LEAD WITH SCIENCE

Our product innovation begins with a Scientific Quality Process ensuring your products are safe, pure and are very effective. Our scientists span a broad range of scientific disciplines. Their expertise gives us unique advantage in our industry to develop and deliver products and devices that no competitor has or could even develop. These cutting-edge products do help improve the lives of our customers. Our team of in-house scientists are located in 5 different Research Centers around the world - each with their own focus & each are state-of-the-art labs including formulation, stability, microbiology, clinical, and chemistry labs demonstrate our commitment to research and development.

BREAKTHROUGH GENETIC APPROACH

Our proprietary science is focused on preventing premature aging. We focus on both the outside of the skin and body but also inside the body's cells - slowing aging at the DNA level. This is based on exclusive access to more than 30 years of anti-aging and gene expression research. Acquiring LifeGen Technologies gave our company exclusive ownership of the largest anti-aging gene expression data base of its kind which has led our science to go beyond the symptoms of aging to target the sources of aging. These discoveries have yielded worldwide media attention with numerous patents, posters, presentations, and published articles.

Unlike competitors our youth-preserving & anti-aging science is not dependent on any single discovery or scientific paper. Instead, our research and development scientists have incorporated key learnings from leading genetic researchers and anti-aging specialists considering the body a whole and positively making hundred to thousands of positive & youthful changes with a single product.. Throughout the years our anti-aging science have received many patents have been licensed in or filed to further protect the proprietary information and technology we utilize.

SCIENTIFIC STUDIES

We are revolutionizing the industry with products that offer comprehensive anti-aging solutions. Our proprietary product formulations and technologies enable us to set new industry standards in anti-aging, with real solutions that exhibit demonstrable results. Rather than rely on testimonials for evidence, we rely on scientific literature and scientific studies. Please take a moment to view our impressive list of scientific studies.

The image shows a laboratory setting with several Erlenmeyer flasks and test tubes on a surface. One flask in the foreground contains a red liquid, while others contain clear or light-colored liquids. The background is blurred, showing more lab equipment. The text 'SCIENTIFIC STUDIES' is overlaid in large, white, sans-serif capital letters across the top half of the image.

SCIENTIFIC STUDIES

A4Beauty's comprehensive product portfolio is the result of in-depth scientific research that is published in respected scientific journals.

See below & discover a small fraction of the scientific research studies on a few of our products:

PUBLISHED ARTICLES

1. Kern, D.G., Draelos, Z.D., Meadows, C., Morr , D.J., Morr , D.M. "Controlling Reactive Oxygen Species in Skin at Their Source to Reduce Skin Aging." *Rejuvenation Research*. 2010 Apr-Jun;13(2-3):165-7.
2. Gopaul, R., Knaggs, H., Langerveld, A. "Reducing Skin Stress Response with Willow Bark-Derived Salicin." *Cosmetic and Toiletries*, (July, 2010): 32-36.
3. Gopaul, R., Gibson, M., Knaggs, H., Holley, K., Lephart, J. "An Evaluation of the Effects of a Topical Product Containing Salicin on the Visible Signs of Human Skin Aging." *Journal of Cosmetic Dermatology*, 9(3) 2010: 196-201.
4. Knaggs, H. "Innovation in the Personal Care Industry." *Journal of Cosmetic Science* 9(3) 2010; 260-263.
5. Bartlett, M. "Nutritional and genetic strategies for longevity." *Anti-Aging Medical News*. Winter 2010:36-40.

6. Gopaul, R., Knaggs, H., Wickett, R. "A Review of Genomic Techniques in Cosmetic Testing." *Cosmetics & Toiletries*. February 2011, pp. 112-117.
7. Tan, N., Barger, J., Zhang, Y., Prolla, T., Weindruch, R., Zhao, C., Bartlett, M., Zhu, J. "CordyMax Cs-4 restores aging-associated changes in gene expression and extends lifespan in normal aged mice." *Proceeding of the 10th Symposium of Mycology Societies Across Taiwan Strait*, Central China Agriculture University Publishing. 2011, pp 255-256.
8. Li, C., Tan, N., Barger, J., Zhang, Y., Ferguson, S., Prolla, T., Zhu, J. "Combined use of ageLOC whole-gene expression profiling technology and mouse lifespan test in anti-aging herbal product study." *Proceeding of New TCM Products Innovation and Industrial Development Summit*, Zhejiang University Publishing, Hangzhou. 27 Nov. 2011. (in press)
9. Chang, A., Lingala, B., Chang, T., Kern, D., Wood, S., Toyoda, H., Knaggs, H. "An Exploratory Study to Determine the Association Between Assessed Facial Skin Aging and Plasma Isoprostane Levels in Middle-Aged Japanese Women." Article first published online: 5 Dec. 2011 *Dermatological Surgery*. <http://onlinelibrary.wiley.com/doi/10.1111/j.1524-4725.2011.02235.x/abstract>.
10. Gopaul, R., Kern, D.G., Knaggs, H.E., Lephart, J.F. (2012) *Narcissus tazetta* and *Schizandra chinensis* to Regulate 'Youth Gene Clusters'—An In vitro Analysis. *Cosmetics & Toiletries*; 127, 6: 446-450.
11. Gopaul, R., Knaggs, H.E., Lephart, E.D. (2012), Biochemical investigation and gene analysis of equol: A plant and soy-derived isoflavonoid with anti-aging and antioxidant properties with potential human skin applications. *BioFactors*. doi: 10.1002/biof.191
12. Mastaloudis, A., Wood, S.M. Age-Related Changes in Cellular Protection, Purification and Inflammation-Related Gene Expression: Role of Dietary

Phytochemicals. *Annals of the New York Academy of Sciences*. 1259(1):112-120; 2012.

13. Mastaloudis, A. A Unique Nutritional Formulation to Promote Cellular Protection and Purification Via Induction of the Nrf2-mediated ARE/Phase II Detoxification Pathways. Second International Conference on Environmental Stressors in Biology and Medicine. Medimond s.l.r. Bologna, Italy. 11-17; 2012.

14. Holley, K.C., Knaggs, H.E. Why Don't I Look Younger? *Euro Cosmetics* 2013, 21: p. 32.

15. Barger, J.L., Vann J.M., Mastaloudis, A., Wood, S.M., Bartlett, M.R., Prolla, T.A. Weindruch, R. Identification of transcriptional targets of healthspan in adipose tissue and modulation by resveratrol. *Nutrition and Aging* 2014;2:157-63.

16. Meadows C, Morre DJ, Morre DM, Draelos ZD, and Kern D. Age-Related NADH Oxidase (arNOX)-Catalyzed Oxidative Damage to Skin Proteins. *Archives of Dermatological Research*, June 2014. <http://www.ncbi.nlm.nih.gov/pubmed/24906676>.

17. H Knaggs, S Wood, D Burke, J Lephart, J Namkoong. (2016). The Contribution of Dietary Nutrients and Supplements to Skin Health. In *Cosmetic Dermatology* 2nd Edition (pp. 357-363). West Sussex, UK: John Wiley & Sons.

18. Wood, S.M.; Mastaloudis, A.F.; Hester, S.N.; Gray, R.; Kern, D.; Namkoong, J. and Draelos, Z.D. Protective effects of a novel nutritional and phytonutrient blend on ultraviolet radiation-induced skin damage and inflammatory response through aging defense mechanisms. *Journal of Cosmetic Dermatology*. 16(4):491-499; 2017.

19. Barger, J.L.; Vann, J.M.; Cray, N.L.; Pugh, T.D.; Mastaloudis, A.; Hester, S.N.; Wood, S.M.; Newton, M.A.; Weindruch, R. and Prolla, T.A. Identification of tissue-specific transcriptional markers of caloric restriction in the mouse and their use to

evaluate caloric restriction mimetics. *Aging Cell*. 16(4):750-760; 2017.
doi:10.1111/ace1.12608

POSTERS

1. “New Skin Benefits for White Willow Bark Extract.” The Society of Cosmetic Chemists Technology Showcase, December 2009. Gopaul, R., Langerveld, A., Lephart, J., Knaggs, H.
2. “Antioxidation and lifespan-extension activities of CordyMax in oxidative stress and aging models #A177.” Oxidants and Antioxidants in Biology, Oxygen Club of California World Congress, March 17-20, 2010, Santa Barbara, CA. Zhu, J., Zhang, Y., Yang, J., Tan, N., Zhao, C., and Mastaloudis, A. (received DSM Research Award).
3. “Age-Related Oxidase (arNOX) Implicated in Aging-Related Oxidative Damage to Skin Proteins,” Oxygen Club of California World Congress, March 2010, Santa Barbara, California. Morré, D.M., Morré, D.J., Meadows, C., Draelos, Z., and Kern, D.G.
4. “CordyMax extends the lifespan in an aging model: a preliminary report, Abstract #A310.” Experimental Biology '10, April 24-28, 2010 Anaheim, CA. Tan, N., Zhang, Y., Yang, J., Zhao, C., and Zhu, J.S.
5. “Improvement of exercise metabolism and carotenoid antioxidant scores with CordyMax and LifePak in young Chinese elite athletes, Abstract #D356.” Experimental Biology '10, April 24-28, 2010 Anaheim, CA. Duan, L., Zhao, L., Liang, C., Lu, L., Gao, L., Li, G., Zhu, J.S.
6. “Maturational alteration of differential expressions of GC:AT-biased genotypes of *Cordyceps sinensis* fungi and *Paecilomyces hepiali* in *Cordyceps sinensis*, Abstract #B210.” Experimental Biology '10, April 24-28, 2010 Anaheim, CA. Zhu, J.S., Gao, L., Yao, Y., Zhou, Y.

7. "Antioxidation activities of CordyMax in an oxidative stress model: a mechanism of its anti-aging properties, Abstract #311." Experimental Biology '10, April 24-28, 2010 Anaheim, CA. Yang, J., Tan, N., Zhao, C., Zhang, Y., and Zhu, J.S.
8. "Appearance in Japanese Women Correlates with Age-Related NADH Oxidase Levels and Blood Markers of Lipid Oxidation," Society for Investigative Dermatology; J. Invest Dermatol 130. S. 6 (May 2010). Morr , D.J., Morr , D.M., Kern, D.G., Wood, S.M.
9. "Regulating the Expression of Genes Associated with the Synthesis and Maintenance of Dermal Hyaluronan and Barrier Lipids Via Topical Treatment of Salicin—An In Vitro Analysis," Society for Investigative Dermatology; J. Invest Dermatol 130. S. 84, May 2010. Gopaul, R., Knaggs, H.
10. "Salicin Regulates the Expression of 'Functional Youth Gene Clusters' to Reflect a More Youthful Skin Profile," International Federation of Societies of Cosmetic Chemists Annual Meeting, May 2010, Buenos Aires, Argentina. Gopaul, R., Langerveld, A., Knaggs, H., Lephart, J.
11. "Inhibition by Coenzyme Q10 of Age Related Oxidase (arNOX) Caused Oxidative Damage in Skin Proteins," International Coenzyme Q Association Meeting, May 2010, Brussels, Belgium. Morr , D.M., Morr , D.J., Meadows, C., Draelos, Z., Kern, D.G.
12. "Appearance in Japanese Women Correlates with the Presence of Inositides and Lysolipids, Both Significant Inhibitors of Age-Related NADH Oxidase Levels," 40th Annual European Society for Dermatological Research, June 2010. Morr , D.J., Morr , D.M., Kern, D.G., Wood, S.M., Toyoda, H., Knaggs, H.
13. "Transcriptional Biomarkers of Mitochondrial Aging and Modulation by *Cordyceps Sinensis* Cs-4." Gordon Research Conference, Biology of Aging,

Determinants of Health-Span: From Cells to Humans, Les Dablerets, Switzerland, August 21-27, 2010. Wood, S.M., Barger, J., Prolla, T.A., Weindruch, R., Mastaloudis, A., Ferguson, S.

14. "Anti-Aging Effects of Superoxide Reduction in Skin by the Application of Specific Inhibitors of Age-Related NADH Oxidase (arNOX)," International Federation of Societies of Cosmetic Chemists, September 2010, Buenos Aires, Argentina. Kern, D.G., Meadows, C., Fuller, B.B., Knaggs, H., Morrè, D.M., Morrè, D.J.

15. "Salicin Reduces the Expression of Genes Associated with Skin Inflammation—An In Vitro Analysis," Society for Investigative Dermatology; *J. Invest Dermatol* 130. S. 85, September 2010. Gopaul, R., Knaggs, H.

16. "Exploratory Study to Assess Association of Skin Aging with Plasma Isoprostane Levels in Healthy Middle-Aged Japanese Women." The American Academy of Dermatology's 69th Annual Meeting, February 2011, New Orleans, LA. Chang, A., Chang, T., Lingala, B., Kern, D., Wood, S., Toyoda, H., Knaggs, H.

17. "A PCR-based screen to identify natural compounds with the ability to influence Nrf2-mediated transcriptional induction of detoxification/antioxidant genes." Gordon Research Conference: Oxidative Stress & Disease. Emerging Research Areas in the Study of Oxidative Stress and Disease. March 13-18, 2011, Ventura, CA. Mastaloudis, A., Barger, J., Prolla, T., Weindruch, R., Ferguson, S., Wood, S.

18. "Cordyceps sinensis Cs-4 restores aging-associated changes in gene expression and extends lifespan in normal aged mice." *Progress in Nutrition* 2011. The 5th International Symposium, "Promoting Good Health and Developing a Sustainable Environment," Hong Kong, March 10-11, 2011. Zhu, J., Tan, N., Barger, J., Zhang, Y., Prolla, T., Weindruch, R., Zhao, C., Bartlett, M.

19. "ageLOC Vitality improves exercise endurance, glucose metabolism and antioxidant capacity in an aging model." *Progress in Nutrition* 2011. The 5th

International Symposium, "Promoting Good Health and Developing a Sustainable Environment," Hong Kong, March 10-11, 2011. Zhu, J., Yang, J., Dong, Y., Zhao, C., Wu, Z., Zhang, Y., Tan, N., Lu, J., Bartlett, M.

20. "The lifespan-prolonging effect of *Cordyceps sinensis* Cs-4 in normal mice and its molecular mechanisms." FASEB J 2011 25(1): 599.1. Experimental Biology 2011, Washington, DC, Apr. 10, 2011. Tan, N., Barger, J., Zhang, Y., Prolla, T., Weindruch, R., Zhao, C., Bartlett, M., Zhu, J.

21. "ageLOC Vitality improves endurance exercise, exercise glucose metabolism and antioxidant capacity in an aging model." FASEB J 2011 25(1): 1049.2. Experimental Biology 2011, Washington, DC, Apr. 12, 2011. Yang, J., Dong, Y., Zhao, C., Wu, Z., Zhang, Y., Tan, N., Lu, J., Bartlett, M., Zhu, J.

22. "*Cordyceps sinensis* Cs-4 restores aging-associated changes in gene expression and extends lifespan in normal aged mice." FASEB J 2011 25(1): 1090.13. Experimental 2011, Washington, DC, Apr. 13, 2011. Tan, N., Barger, J., Zhang, Y., Prolla, T., Weindruch, R., Zhao, C., Bartlett, M., Zhu, J.

23. "An ageLOC Vitality formula improves endurance exercise in aged mice and energy metabolism in muscle mitochondria." FASEB J 2011 25(1): 1114.9. Experimental Biology 2011, Washington, DC, Apr. 13, 2011. Dong, Y., Lu, J., Yang, J., Zhao, C., Tan, N., Wu, Z., Zhang, Y., Gao, L., Bartlett, M., Zhu, J.

24. "Association of skin aging severity with blood isoprostane levels in healthy middle-aged Japanese women." Society for Investigative Dermatology (SID) May 2011, J. Invest Dermatol 131. S. 85 (2011). Chang, T., Lingala, B., Kern, D., Wood, S., Toyoda, H., Knaggs, H., Chang, A.

25. "CordyMax Cs-4 restores aging-associated changes in gene expression and extends lifespan in normal aged mice." Proceeding of the 10th Symposium of Mycology Societies cross Taiwan Strait, Central China Agriculture University. 2011,

pp 255-256. Oral presentation at: The 10th Symposium of Mycology Societies Cross Taiwan Strait, Wuhan, China, July 17, 2011. Tan, N., Barger, J., Ferguson, S., Zhang, Y., Prolla, T., Zhu, J.

26. "A Multifactorial Approach to Addressing Body Appearance Aging." European Society for Dermatological Research (ESDR) September 2011, *J. Invest Dermatol* 131. S. 54 (2011). Knaggs, H., Kern, D., Gopaul, R., Langerveld, A.

27. "A Multifactorial Gene Expression Approach to Understanding Skin Aging." *J. Invest Dermatol* 131. S. 57, September 2011. Knaggs, H., Kern, D., Bartlett, M., Wood, S., Mastaloudis, A., Ferguson, S., Langerveld, A.

28. "A Systematic Approach to Evaluate and Rank Natural Ingredients Based on Their Ability to Oppose Age-Related Changes in Gene Expression." Linus Pauling Institute Diet and Optimum Health Conference. Corvallis, OR. September 13-16, 2011. Wood, S., Mastaloudis, A., Barger, J., Prolla, T., Weindruch, R.

29. "A unique blend of natural compounds with the ability to oppose age-related changes in gene expression related to dysregulation of removal of cellular debris, cellular detoxification, antioxidant protection and inflammatory balance." Second International Conference on Environmental Stressors in Biology and Medicine. October 5-7, 2011, Centro Didattico, Policlinico Le Scotte Siena, Italy. Mastaloudis, A., Barger, J., Prolla, T., Weindruch, R., Bartlett, M., Wood, S.

30. "Whole-gene transcriptional profiling to detect aging-associated mitochondria dysfunction and to develop an anti-aging product." Proceeding of 2011 International Conference on Food Factors. Zhu, J.S., Dong, Y.Z., Barger, J.L., Lu, J.H., Tan, N.Z., Prolla, T.A., Weindruch, R., Bartlett, M. Invited Speaker at: The 2011 International Conference on Food Factors, Taiwan, November 20-23, 2011.

31. "Combination of ageLOC biochip whole-gene expression profiling and mouse lifespan test in CM anti-aging study." Proceeding of Summit of New TCM product

Development and Industrial Development Strategy, China J Chinese Materia Medica Publishing. 2011. Li, C.L., Tan, N., Barger, J., Ferguson, S., Zhang, Y., Prolla, T., Zhu, J. Invited Speaker at: Summit of New TCM product Development and Industrial Development Strategy, Hangzhou, China, November 25-27, 2011.

32. “Influencing the Expression of Genes Associated with Skin Inflammation by Combining Narcissus Tazetta Bulb Extract and Schizandra Chinensis Fruit Extract—an in vitro Analysis.” Society of Cosmetic Chemists Annual Scientific Seminar, New York, NY, December 2011. Gopaul, R., Knaggs, H., Kern, D.

33. “So Why Don’t I Look Younger?” International Federation of Societies of Cosmetic Chemists, Bangkok, Thailand, December 14-15, 2011. Kern, D., Chang, A., Wood, S., Gopaul, R., Lephart, J., Knaggs, H.

34. Chang, A.L.S., Spitale, R., Torre, E., Lingala, B., Chang, H.Y., Kern, D.G., Wood, S.M., Knaggs, H. E. Transcriptional profiling to identify genes controlling human skin aging presented at the 70th Annual Meeting of the American Academy of Dermatology in San Diego on March 16-20, 2012. J Am Acad Dermatol 66(4), AB32 (2012).

35. Gopaul, R., Kern, D.G., Knaggs, H.E. L. Digitata influences expression of genes related to vasculature and may therefore be beneficial for improving the appearance of cellulite presented at Society for Investigative Dermatology, May 9-12, 2012. Supplement to the Journal of Investigative Dermatology 132(1), S65 (2012).

36. Gopaul, R., Kern, D.G., Knaggs, H.E. L. Digitata influences gene expression relating to adipogenesis and lipolysis and thus may be used as an active ingredient for addressing cellulite presented at Society for Investigative Dermatology, May 9-12, 2012. Supplement to the Journal of Investigative Dermatology 132(1), S65 (2012).

37. Mastaloudis, A., Barger, J.L., Prolla, T.A., Weindruch, R., Wood, S.M. A unique blend of natural compounds opposes age-related changes in gene expression related to dysregulation of cellular detoxification and antioxidant protection. Society for Free Radical Research International, London, England. September 6-9, 2012.
38. Kern, D.G., Draelos, Z.D., Gopaul, R., Lephart, J., Knaggs, H.E. Microcurrent Skin Treatment Outperforms a Standard Retinol Topical in the Treatment of Cellulite Skin Topography presented at the 42nd Annual Meeting of the European Society for Dermatological Research in Venice, Italy on September 19-22, 2012.
39. Gopaul, R., Kern, D.G., Knaggs, H.E., Lephart, J.F. Regulating the Expression of Genes Associated with the Protection and Maintenance of Skin Structure via Topical Treatment of Narcisscus Tazetta Bulb Extract and Schizandra Chinensis Fruit Extract- an *In vitro* Analysis presented at the 42nd Annual Meeting of the European Society for Dermatological Research in Venice, Italy on September 19-22, 2012.
40. Gopaul, R., Knaggs, H.E., Kern, D.G., Lephart, J.F. Targeting Genes Related to Skin Firmness—an *in-vitro* Approach presented at the Annual Society of Cosmetic Chemists Meeting in New York, NY on December 6-7, 2012.
41. Wood, S.M., Poole, S., Burke, D., Bartlett, M., Mastaloudis, A. Weight management program, including a blend of natural compounds, facilitates weight loss in overweight men and women: a pilot study. Experimental Biology, Boston MA. *FASEB J* April 9, 2013 27:851.14.
42. Wood, S.M., Poole, S., Bartlett, M., Mastaloudis, A., Burke, D. Effects of a novel dietary supplement on physical and mental function in middle-aged adults: a double-blind, randomized, placebo-controlled trial. Experimental Biology, Boston, MA. *FASEB J* April 9, 2013 27:1076.8.

43. N-Z. Tan, J-Y. Yang, G. Yang, J-S. Zhu. ageLOC vitality improves memory and learning ability in memory impairment models. Experimental Biology, Boston MA. *FASEB J* April 9, 2013 27: 661.4.
44. L. Gao, Y-S. Yao, Z. Wu, J-S. Zhu. Changes in RAPD molecular marker polymorphism during *Cordyceps sinensis* maturation. Experimental Biology, Boston MA. *FASEB J* April 9, 2013 27: 1079.13.
45. L. Gao, Y. Zhang, J-H. Lu, N-Z. Tan, J-S. Zhu. Cs-5 modulating immune response in a normal adult model. Experimental Biology, Boston MA. *FASEB J* April 9, 2013 27: 866.1.
46. J-Y. Yang, Y. Zhang, Y-Z. dong, N-Z. Tan, J-H. Lu and J-S. Zhu. *Cordyceps sinensis* Cs-5 enhances sexual functions in normal and impotent models. Experimental Biology, Boston MA. *FASEB J* April 9, 2013 27: 1167.8.
47. Kern, D.G., Stephens, T.J., Knaggs, H.E. An instrument-applied topical product affects skin microvasculature and may therefore be beneficial for improving the appearance of cellulite presented at the International Investigative Dermatology meeting on May 8-11, 2013 in Edinburgh, Scotland.
48. Kern, D.G., Knaggs, H.E., Gopaul, R., Bevis, D.J., Kilkuskie, R.E., Lehigh, E.A., Langerveld, A.J., Pfund, W.P. An in vitro method for identifying agents with lipofilling-like activity: Parallel Assessment of lipid accumulation, toxicity and gene expression presented at the International Investigative Dermatology meeting on May 8-11, 2013 in Edinburgh, Scotland.
49. Gopaul, R., Kern, D.G., Namkoong, J., Knaggs, H. Targeting Genes Related to Skin Firmness—an In Vitro Approach presented at Society of Cosmetics Chemist in December 12-13, 2013 in New York, New York.

50. A.S. Chang, R Spitale, R Li, E Torre, D.G. Kern, H.E. Knaggs. Identification of Gene Expression Signatures in Older Women with Youthful Appearing Skin presented at Society for Investigative Dermatology (SID) in Albuquerque, NM on May 7-10, 2014.
51. D.G. Kern, J. Namkoong, H.E. Knaggs, R. Gopaul, D.J. Bevis, R.E. Kilkuskie, E.A. Lehigh, A.J. Langerveld, W.P. Pfund. An in vitro Method for Identifying Agents with Lipofilling-like Activity: Assessment of Lipid Accumulation, Tissue Source, Age, and Gene Expression presented at Society for Investigative Dermatology (SID) in Albuquerque, NM on May 7-10, 2014.
52. Jin Namkoong. A Special Lunch Presentation: Company Highlighting Recent Scientific Posters presented at Happi's Anti-Aging Conference, September 17, 2014.
53. Namkoong, J, Cook, B, Larsen, K, Zhou, H, Landreth, B, Lehigh, E, Langerveld, A, Stevenson, D, Knaggs, H. Assessment of Jasmine essential oils on skin equivalents presented at 12th Biannual Conference of the Asian Societies of Cosmetic Chemists on April 28-30, 2015 in Cairns, Australia.
54. Namkoong, J, Kern, D, Gopaul, R, Lehigh, E, Langerveld, A, Knaggs, H. Epigenetic modulation of skin equivalents by cosmetic ingredients presented at the Society for Investigative Dermatology on May 6-9, 2015 in Atlanta, GA.
55. Xu, J, Spitale, R, Flynn, R, Torre, E, Li, Rui, Raber, I, Kern, D, Knaggs, H, Chang, H, Chang, A. Hyaluronan synthase 2 antisense transcript level associates with human skin youthfulness as identified by transcriptome sequencing presented at the Society for Investigative Dermatology on May 6-9, 2015 in Atlanta, GA.
56. Stephens, B, Namkoong, J, Kern, D, Gopaul, R, Knaggs, H. Gene and epigenetic expression patterns of same-genome skin equivalent constructs exposed to single and combination of cosmetic ingredients presented at 23rd World Congress of Dermatology June 8-13, 2015. Vancouver, Canada.

57. Namkoong, J, Cook, B, Stevenson, D, Kern, D, Knaggs, H. A design strategy for comprehensive quality control of botanicals: a case study with essential oils presented at the International Federation of Societies of Cosmetic Chemists in Zurich Switzerland on September 22-23, 2015.
58. D Kern, J Namkoong, R Best, I Ansell, A Norman, O Godbold, H Innes, K Fuller, and H Knaggs. A Key Strategy to Support the Evolution of Personalized Skin Care. Presented at the International Federation of Societies of Cosmetic Chemists in Zurich Switzerland on September 22-23, 2015.
59. Wood, S.M.; Gray, R.; Kern, D.; Hester, S.N.; Mastaloudis, A.; Namkoong, J.; and Draelos, Z.D. Novel Nutritional Formula Protects Against Cellular Damage. *FASEB Journal* 30:692.5; April 2016.
60. Choy, Y.Y.; Hester, S.N.; Mastaloudis, A.; Wood, S.M.; Gray, R.; O'Donnell, R.P.; Barger, J.L.; Quifer-Rada, P.; Lamuela-Raventós, R.M. and Waterhouse, A.L. Nutritional Polyphenol Metabolites' Kinetics in Plasma, Urine, and Saliva Following Consumption by Normal, Healthy, Subjects. *FASEB Journal* 30:690.2; April 2016.
61. Cremonini, E.; Anderson, M.; Waterhouse, A.L.; Mastaloudis, A.; Wood, S.M.; Hester, S.N.; Verstraeten, S.; Fraga, C.G. and Oteiza, P.I. Anthocyanins inhibit tumor necrosis alpha-induced loss of Caco-2 cell barrier integrity. *Proceedings of the Oxygen Club of California 2016 World Congress; University of California at Davis, Davis, CA. A80; May 4-6, 2016.*
62. Mastaloudis, A.; Serna, E.; Wood, S.M.; Hester, S.N.; Weindruch, R.; Prolla T.A. and Vina, J. A Novel Nutrient Blend Mimics Calorie Restriction Transcriptional Patterns in Brain of Mice. *Proceedings of the Oxygen Club of California 2016 World Congress; University of California at Davis, Davis, CA. A105; May 4-6, 2016.*

63. J. Namkoong, B. Cook, D. Kern, H.E. Knaggs. Topical Treatments Improved Periorbital Aging. *Journal of Investigative Dermatology*, [May 2016](#) Volume 136, Issue 5, Supplement 1, Page S47. Poster presented at Society for Investigative Dermatology on May 11-14, 2016 in Scottsdale, AZ.
64. S. Wood, R. Gray, S. Hester, A. Mastaloudis, D. Kern, J. Namkoong, Z.D. Draelos. Nutritional Supplementation Improves Skin Health, [May 2016](#) Volume 136, Issue 5, Supplement 1, Page S103. Poster presented at Society for Investigative Dermatology on May 11-14, 2016 in Scottsdale, AZ.
65. Dale Kern, Kara C. Holley, Remona Gopaul, Melanie Riggs, Jin Namkoong, Helen E. Knaggs. Instrumental Enhancement of Topical Skin Care Product Performance. Poster presented at International Federation of Societies of Cosmetic Chemists on October 30-November 2, 2016 In Orlando, FL.
66. DG Kern, ZD Draelos, J Namkoong, M Riggs, and HE Knaggs. A Unique Sensitive Skin Cleansing Technology. Poster presented at the American Academy of Dermatology annual meeting on March 3-7 2017 in Orlando, FL.
67. S. Jones, D. A. Hart, A. Blythe, J. Ronsky, J. Namkoong, and D. Kern. The influence of a novel mechanical loading regimen on the molecular response of human facial skin cells. Poster presented at the Society for Investigative Dermatology meeting on April 26-29 in Portland, OR.
68. Jin Namkoong, Dale G. Kern, and Helen E. Knaggs. Preliminary Evaluation of Gene Expression Changes from Tape Strippings. Poster presented at the Society for Investigative Dermatology meeting on April 26-29 in Portland, OR.
69. Subramaniam, P.; Mastaloudis, A.; Wood, S.M.; Hester, S.N.; McGlade, E.C.; Renshaw, P.F. and Yurgelun-Todd, D.A. Alterations in Brain Connectivity Following Supplementation with a Putative Caloric Restriction Mimetic Blend of Nutrients and

Phytochemicals. American Society of Clinical Psychopharmacology Annual Meeting, Miami, FL, May 29 - June 2, 2017.

70. Mastaloudis, A.; Serna, E.; Wood, S.M.; Hester, S.N.; Weindruch, R.; Prolla T.A. and Vina, J. A Novel Nutrient Blend Mimics Calorie Restriction Transcriptomics Differentially in Multiple Tissues of Mice. *Proceedings of the Oxygen Club of California 2016 World Congress*; Berlin, Germany. A235; June 21-23, 2017.

71. Mastaloudis, A.; Serna, E.; Wood, S.M.; Hester, S.N.; Weindruch, R.; Prolla T.A. and Vina, J. A Long-term supplementation with a novel nutrient blend mimics calorie restriction transcriptomics in multiple tissues of old mice. *Linus Pauling Institute Diet and Optimum Health Conference*; Corvallis, Oregon. A33; September 13-16, 2017.

72. DG Kern, J Namkoong, M Riggs, B Cook, ZD Draelos, HE Knaggs. A Novel Device for Skin Type-Based Treatment While Cleansing. Poster presented at the 47th Annual European Society of Dermatological Research on September 27-30, 2017 in Salzburg, Austria.

73. DG kern, J Namkoong, M Riggs, HE Knaggs. Digital image analysis of skin improvement following use of a novel treatment cleansing technology. Poster presented at International Federation of Societies of Cosmetic Chemistry in Seoul, Korea on October 23-25, 2017.

ORAL PRESENTATIONS

1. "Resveratrol mimics caloric restriction and retards aging in the heart." Oxidants and antioxidants in biology, Oxygen Club of California World Congress, Santa Barbara, CA, March 17-20, 2010. Prolla, T.

2. "Aging and Genes—the Link with Skin." New York Society of Cosmetic Chemists Meeting, March 2010, Knaggs, H.
3. "Transcriptional biomarkers of age and their modulation by dietary intervention." Invited Speaker: CoLONGY, The 1st International Congress on Controversies in Longevity, Health and Aging. Barcelona, Spain, June 24-27, 2010. Barger, J., Wood, S.M., Weindruch, R., Prolla, T.
4. "Mitochondria and Aging." Japan Symposium. Mechanisms of Ageing and Development, September 2010;13:449-450;480-486. Prolla, T.
5. "A nutritional strategy to oppose the genetic expression of aging and loss of vitality." 1st World Congress on Targeting Mitochondria, Strategies, Innovation and Clinical Applications, Berlin, Germany, November 18-19, 2010. Wood, S.M., Ferguson, S.B., Barger, J.L., Prolla, T.A., Weindruch, R., Bartlett, M.
6. "Targeting age-related gene expression improves mental and physical vitality." 1st World Congress on Targeting Mitochondria, Strategies, Innovation and Clinical Applications, Berlin, Germany, November 18-19, 2010. Ferguson, S.B., Tan, N., Dong, Y., Lu, J., Fisk, N.A., Wood, S.M., Zhu, J., Bartlett, M.
7. "Genes and Aging: Links to Skin," In-Cosmetics Asia; Bangkok, Thailand, November 2010. Knaggs, H.
8. "Why Do People Look Younger for Their Age," Asian Cosmetic Chemistry Society, Singapore, China, November 2010. Knaggs, H.
9. "A Review of Current Genomic Techniques Used in Gene Expression Profiling of the Skin," Society of Cosmetic Chemists Annual Meeting; New York, New York, December 2010. Gopaul, R.

10. "Transcriptional biomarkers of calorie restriction and their modulation by dietary interventions." Invited Speaker: Free Radicals, Nutrition and Aging: From Fundamental Aspects to Clinical Applications. Paris, France, June 15-17, 2011. Barger, J.
11. "CordyMax Cs-4 restores aging-associated changes in gene expression and extends lifespan in normal aged mice." The 10th Symposium of Mycology Societies Across Taiwan Strait, Wuhan, China, July 17, 2011. Tan, N., Barger, J., Ferguson, S., Zhang, Y., Prolla, T., Zhu, J.
12. "Transcriptional biomarkers of calorie restriction in adipose tissue and modulation by dietary interventions." Invited Speaker: Linus Pauling Institute Diet and Optimum Health Conference. Corvallis, OR, September 13-16, 2011. Barger, J.
13. "A unique nutritional formulation to promote cellular protection and purification via induction of the Nrf2-mediated ARE/Phase II detoxification pathways." Invited Speaker: Second International Conference on Environmental Stressors in Biology and Medicine. Centro Didattico, Policlinico Le Scotte Siena, Italy. October 5-7, 2011. Mastaloudis, A.
14. "Restructuring of the ECM in Human Skin by Equol: A Plant and Soy-Derived Isoflavonoid." Gene Expression and Protein Evidence presented at the 4th International Conference and Exhibition for Nutraceuticals and Functional Foods, Sapporo, Japan, November 2011. Gopaul, R., Knaggs, H., Lephart, E.
15. "Whole-gene transcriptional profiling to detect aging-associated mitochondria dysfunction and to develop an anti-aging product." Invited Speaker: The 2011 International Conference on Food Factors, Taiwan, November 20-23, 2011. Zhu, J., Dong, Y., Barger, J., Lu, J., Tan, N., Prolla, T., Weindruch, R., Bartlett, M.
16. "Combination of ageLOC biochip whole-gene expression profiling and mouse lifespan test in CM anti-aging study." Invited Speaker: Summit of New TCM product

Development and Industrial Development Strategy, Hangzhou, China, November 25-27, 2011. Li, C., Tan, N., Barger, J., Ferguson, S., Zhang, Y., Prolla, T., Zhu, J.

17. Knaggs, H.E. Why Don't I Look Younger? Presented at HBA Global Expo in New York City, NY; June 2012.

18. "Experimental proof of lifespan extension property and the molecular mechanisms of anti-aging herbs *Cordyceps sinensis* and *Ganoderma lucidum*." Invited Speaker: TWGHs Sophia Wang Eddie Wang Integrated Chinese and Western Medicine Symposium 2012/13, Hong Kong, China, March 7, 2013. Zhu, Josh.

19. "Amplicon density-weighted algorithms analyze high dissimilarity and dynamic alterations of RAPD molecular marker polymorphisms in the integrated microecology *Cordyceps sinensis* with multiple fungi." The 11th Symposium of Mycol Societies cross Taiwan Strait, Beijing, China, May 17-19 2013. Zhu, Josh.

20. Barger, J. "Transcriptional biomarkers of aging and modulation by dietary interventions" International Association of Gerontology and Geriatrics: Seoul, South Korea, June 25, 2013.

21. Barger, J. "Conserved pathways to longevity and modulation by resveratrol" Wine Health 2013: Sydney, Australia, July 19, 2013.

22. "Anti-oxidation and lifespan extension activities of *Cordyceps sinensis* Cs-4." The 7th International Medicinal Mushroom Conference, Beijing, China, August 26-29, 2013. Zhu, J., Wu, Z.

23. "Anti-oxidation and lifespan extension activities of *Cordyceps sinensis* Cs-4 and the anti-aging molecular mechanisms." Biennial Meeting of Society for Free Radical Research-Asia, Taiwan, October 16-19, 2013. Zhu, J., Tan, L.

24. Barger, J. "Resveratrol mimics health span effects of calorie restriction in white adipose tissue" 6th International Conference on Polyphenols and Health: Buenos Aires, Argentina, October 19, 2013.
25. Barger, J. "Nutrigenomic approaches to slowing the aging process" Vision 2020 Seminar series, University of Zurich, November 21, 2013.
26. "The Big Debate: Where Industry Professionals See the Future of the Industry Going." Cosmetics Vision March 5-7, 2014 in Cannes, France, King, Will, Pessikoff, Robert, and Knaggs, Helen.
27. "Brand Case Study: Exploring the Challenges and Opportunities in Doing Business in Global Markets." HBA June 12, 2014 in New York, NY. Knaggs, Helen.
28. "Identification of Novel Mechanisms behind Skin Aging." Happi's Anti-Aging Conference, September 16, 2014 in New Brunswick, NJ. Knaggs, Helen.
29. "Exploring the Challenges and Opportunities in Doing Business in Global Markets." Happi's Anti-Aging Conference, September 17, 2014 in New Brunswick, NJ. Knaggs, Helen.
30. Knaggs, Helen. Exploring mechanisms of antiaging-does one size fit all? Platform presentation at the 12th Biannual Conference of the Asian Societies of Cosmetic Chemists on April 28-30, 2015 in Cairns, Australia.
31. H Knaggs, B Cook. Essential Oil Presentation, Q&A, and round table discussion. SkinCare Ingredients 2015. Online Wednesday June 24.
32. "An approach for customizing skin care regimens." Cosmetics & Personal Care Tech Asia 2016, May 26-27th, 2016 in Shanghai, China. Knaggs, Helen.

33. “Essential Oils in Personal Care: A volatile mix of challenge and opportunity.” In-Cosmetics North America, September 7, 2016 in New York, NY. Cook, Brian.
34. “An approach for customizing skin care.” European Dermocosmetologic Days, January 30th and 31st in Lyon, France. Knaggs, Helen.
35. DG Kern. “Beneficial Skin Movement: In Vitro to In Vivo” presented at Cosmetic R&D Technology Cooperation in Shanghai, CN on May 8-9, 2017.
36. H Knaggs. “Future of formulations in cosmetics Efficacy – to formulate or to engineer?” presented at the 3rd Future of Formulations In Cosmetics in Barcelona, Spain on May 17-18, 2017.

AWARDS

1. Angela Mastaloudis, Ph.D. Senior Scientist, Received the DSM Nutraceutical Research Award 2010.
2. Awarded Utah Innovation Award for ageLOC Vitality: Natural Products category, 2011.
3. 2012 Golden Bridge Awards—Dr. Joe Chang Most Innovative Person of the Year.
4. Utah Innovation Honorable Mention Award for ageLOC R2: Consumer Products category, 2012.
5. Helen Knaggs named Gold Winner for Most Innovative Woman of the Year by Women in Business and the Professions, 2015.
6. Women Tech Council named Helen Knaggs a Finalist for Innovator of the Year 2015.

7. 2015 Good Design Award by Chicago Athenaeum for ageLOC Me.
8. ageLOC Me won the 2016 Techie Award for the Most Innovative Retail Product.
9. ageLOC Me received a 2016 platinum A' Design Award in the Beauty, Personal Care, and Products Design category for innovation, technology, design, and creativity.
11. ageLOC Me received the Big Innovation award as a 2016 Top Innovation from a panel of industry experts.
12. ageLOC Me won the 2016 Best Beauty Supplement/Device/Skin Care Innovation category award.
13. ageLOC Me was awarded the Edison Award – Silver, 2017.
14. ageLOC Me was awarded the Best in Biz Award – Silver, 2017.
15. ageLOC Me won the Bronze Stevie for New Product or Service Introduction of the Year, 2017.
16. ageLOC LumiSpa received the Golden Bridge Award – Silver, 2017.
17. ageLOC Youth received Her World Beauty Awards for the anti-aging supplement category, 2017.
18. ageLOC Me received Marie Claire's Futuristic Top 20 award, 2017.
19. ageLOC Tru Face Essence Ultra Duet won The Pure Beauty Awards (UK): Best New Premium Skin Care Product, 2017.
20. ageLOC Tru Face Essence Ultra Duet won The Beauty Awards with OK Magazine! (UK): Best New Premium Skin Care Product, 2017.