

INDUSTRY EXPERT RESEARCH REPORT



Product Name	AHP Cellular Vitality Activated Phenolics
Benefits	True Broad-Spectrum Antioxidant, Cellular Protection Against Free Radicals
Key Ingredients	100% Natural Activated Phenolics
Directions	Mix 1 scoop in water or beverage Use 1-4 times daily
Date of Report	1st December 2020



AHP Cellular Vitality Activated Phenolics

RESEARCH FINDING

Phenolic compounds are widely present in nature and are the most abundant form of antioxidants in the diet, being the common components of fruits, vegetables, and their derivatives. In the last few years, the identification and development of phenolic compounds or extracts from different plants has become a major area of medical-related research due to their emerging health promoting effects.

Naturally, phenolic compounds are found in the highest concentrations in apples compared to other fruits, where they are function as protection against ultraviolet (UV) damage and environmental stress factors.

AHP Cellular Vitality Activated Phenolics is made from 100% natural activated phenolics which has been scientifically reported for its potent antioxidant properties and marked effects in the prevention of various oxidative stress associated diseases. AHP Cellular Vitality Activated Phenolics is extracted from Australian apples and activated through water extraction as opposed to the use of chemicals which can decrease the body's ability to absorb and in turn decrease the effectiveness of antioxidants.¹

In addition to their antioxidant potential, several studies have also demonstrated that phenolic compounds are anticarcinogenic, anti-inflammatory, cardioprotective and protect against skin damage.

SCIENTIFIC EVIDENCE

Several epidemiological studies have reported on the association between higher intakes of phenolic-rich foods and a lower risk of oxidative stress associated diseases such as cardiovascular diseases, cancer or osteoporosis.^{2,3,4,5} Investigations have shown that the mechanisms of action may include several different pathways:⁶ (1) scavenging radical species such as reactive oxygen species (ROS)/ reactive nitrogen species (RNS); (2) suppressing ROS/RNS formation by inhibiting some enzymes or chelating trace metals involved in free radical production (e.g., copper or iron); (3) increase in endogenous antioxidant production (e.g., superoxide dismutase, glutathione).

In addition to having antioxidant properties, phenolic compounds have several other specific biological actions in preventing and/or treating diseases. More recently, phenolics were described to have immune-response modulation properties and anti-inflammatory effects. Scientific studies have shown that phenolic compounds significantly reduced NO (nitric oxide), MPO (myeloperoxidase), and TNF- α (inflammatory mediators) production in human peripheral blood neutrophils. These results suggest that phenolic compounds may play a potential role in neutrophil-mediated inflammatory diseases.^{7,8}

Human clinical studies on cancer preventive activities of phenolic-rich foods have been conducted in healthy volunteers and in individuals predisposed to cancer. Most studies have employed biomarkers reflecting antioxidant status or oxidative stress as endpoints. Improvement of antioxidant status and/or protection against oxidative stress was observed in short term intervention studies with various phenolic-rich food or food preparations.⁴ A decrease in DNA oxidation damage and protein and lipid peroxidation was also found in high risk patients.⁹

For cardio-protection, a number of large cohort studies have found that intake of phenolics was associated with a significant reduction in coronary mortality,¹⁰ with one 12 year follow-up study reporting a 40-50% lower risk of nonfatal cardiovascular events.¹¹ Putative mechanisms of action include inhibition of low-density lipoprotein (LDL) oxidation and inhibition of platelet aggregation and adhesion (to prevent excessive blood clotting and vessel occlusion).

A systematic review and meta-analysis based on 120 human clinical trials revealed a significant beneficial effect of phenolic compounds on blood lipids. The scientific analysis found that the intake of phenolic-rich products was associated with significant reductions in body mass index (BMI), waist circumference, total-cholesterol, LDL-cholesterol, and triglycerides, and with an increase of HDL-cholesterol.¹² In a separate analysis, phenolic consumption was also reported to improve cardiometabolic biomarkers using pooled results from 18 clinical trials. The analysis reported that in addition to improvements in cholesterol levels, significant reductions were also observed in fasting plasma glucose levels as well as in blood pressure.¹³

The potential of phenolics in the prevention and therapy of skin disorders has been reported and has been considered a promising tool in eliminating the causes and effects of skin ageing and skin damage, including wounds and burns. Their actions include effective skin cell renewal, elastin and collagen stimulation and inhibition of excessive melanin synthesis.^{14,15} Scientific investigations have reported that many phenolic compounds exhibit inhibitory activity against collagenases (to reduce breakdown of collagen) and elastases (to reduce breakdown of elastin), thus facilitating maintenance of proper skin structure. Furthermore, investigational studies modelled on ageing human skin cells have shown that skin renewal genes involved in proliferation, differentiation, survival and DNA synthesis were increased almost 2-fold following treatment with phenolic compounds.^{16,17}

REFERENCES

1. Muhammad Bilal Hussain SH, Marwa Waheed, Ahsan Javed, Muhammad Adil Farooq, Ali Tahir. Bioavailability and Metabolic Pathway of Phenolic Compounds. *Plant Physiological Aspects of Phenolic Compounds*. 2019.
2. Hollman PC, Katan MB. Dietary flavonoids: intake, health effects and bioavailability. *Food Chem Toxicol*. 1999;37(9-10):937-942.
3. Scalbert A, Manach C, Morand C, Remesy C, Jimenez L. Dietary polyphenols and the prevention of diseases. *Crit Rev Food Sci Nutr*. 2005;45(4):287-306.
4. Dai J, Mumper RJ. Plant phenolics: extraction, analysis and their antioxidant and anticancer properties. *Molecules*. 2010;15(10):7313-7352.
5. GutiErrez-Grijalva EP, Ambriz-Pere DL, Leyva-Lopez N, Castillo-Lopez RI, Heiedia JB. Review: dietary phenolic compounds, health benefits and bioaccessibility. *Arch Latinoam Nutr*. 2016;66(2):87-100.
6. Koch W. Dietary Polyphenols-Important Non-Nutrients in the Prevention of Chronic Noncommunicable Diseases. A Systematic Review. *Nutrients*. 2019;11(5).
7. Nikfarjam BA, Adineh M, Hajiali F, Nassiri-Asl M. Treatment with Rutin - A Therapeutic Strategy for Neutrophil-Mediated Inflammatory and Autoimmune Diseases: - Anti-inflammatory Effects of Rutin on Neutrophils. *J Pharmacopuncture*. 2017;20(1):52-56.
8. Nikfarjam BA, Hajiali F, Adineh M, Nassiri-Asl M. Anti-inflammatory Effects of Quercetin and Vitexin on Activated Human Peripheral Blood Neutrophils: - The effects of quercetin and vitexin on human neutrophils. *J Pharmacopuncture*. 2017;20(2):127-131.
9. Spormann TM, Albert FW, Rath T, et al. Anthocyanin/polyphenolic-rich fruit juice reduces oxidative cell damage in an intervention study with patients on hemodialysis. *Cancer Epidemiol Biomarkers Prev*. 2008;17(12):3372-3380.
10. Xia SULW. Food Phenolics, Pros and Cons: A Review. *Food Reviews International*. 2006;21(4):367-388.
11. Ponzo V, Goitre I, Fadda M, et al. Dietary flavonoid intake and cardiovascular risk: a population-based cohort study. *J Transl Med*. 2015;13:218.
12. Antonio González-Sarrías, Emilie Combet, Paula Pinto, Pedro Mena, Margherita Dall'Asta, Mar Garcia-Aloy, Ana Rodríguez-Mateos, Eileen R. Gibney, Julie Dumont, Marika Massaro, Julio Sánchez-Meca, Christine Morand and María-Teresa García-Conesa A Systematic Review and Meta-Analysis of the Effects of Flavanol-Containing Tea, Cocoa and Apple Products on Body Composition and Blood Lipids: Exploring the Factors Responsible for Variability in Their Efficacy. *Nutrients*. 2017;9(7).
13. Menezes R, Rodriguez-Mateos A, Kaltsatou A, et al. Impact of Flavonols on Cardiometabolic Biomarkers: A Meta-Analysis of Randomized Controlled Human Trials to Explore the Role of Inter-Individual Variability. *Nutrients*. 2017;9(2).
14. Dzialo M, Mierziak J, Korzun U, Preisner M, Szopa J, Kulma A. The Potential of Plant Phenolics in Prevention and Therapy of Skin Disorders. *Int J Mol Sci*. 2016;17(2):160.
15. Karim AA, Azlan A, Ismail A, et al. Phenolic composition, antioxidant, anti-wrinkles and tyrosinase inhibitory activities of cocoa pod extract. *BMC Complement Altern Med*. 2014;14:381.
16. Dudonne S, Coutiere P, Woillez M, Merillon JM, Vitrac X. DNA microarray study of skin aging-related genes expression modulation by antioxidant plant extracts on a replicative senescence model of human dermal fibroblasts. *Phytother Res*. 2011;25(5):686-693.
17. Dudonne S, Poupard P, Coutiere P, et al. Phenolic composition and antioxidant properties of poplar bud (*Populus nigra*) extract: individual antioxidant contribution of phenolics and transcriptional effect on skin aging. *J Agric Food Chem*. 2011;59(9):4527-4536.



EXPERT'S PROFILE

Dr Melinda Phang is a trained biochemist with a clinical research skillset and with a PhD in Medicinal Biochemistry. She has extensive experience in running clinical trials in nutraceuticals research and precision medicine in cardiovascular health. Her research has been recognised by several awards from scientific societies including the Nutrition Society of Australia, Australian Atherosclerosis Society and the Nestle Nutrition Institute.

Dr Phang's research track record involves over 26 scientific publications in peer-reviewed journals and several book chapters. During her academic roles, she also lectured for the Masters of Pharmacy and Nutrition & Dietetics programs in the areas of pharmaceutical and nutritional biochemistry. Her wide skill-set spans across multi-site clinical trials research, laboratory work, diagnostic pathology to academic teaching and scientific writing.

ABOUT AZURE BIOTECH & MEDICAL RESEARCH CENTRE:

Azure Biotech & Medical Research Centre is a part of AHP Group, focusing on research and development activities relating to nutraceutical and pharmaceutical products to improve the overall wellbeing of general population. It engages and appoints qualified experts and practitioners in the field of biochemistry, pharmacy and medical practice to access the latest knowledge and experiences in the health industry, with the goal to deliver a unique range of premium, class-leading quality health products and services to ahp customers.

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You must not rely on the information in the report as an alternative to medical or nutritional advice from an appropriately qualified professional. If you have any specific questions about any medical or health matter you should consult an appropriately qualified professional.

