



VIVIX[®]

ANTIOXIDANT SOLUTION

Liquid Supplement

THE CHALLENGE

The condition of our cells is of paramount importance. When they're healthy, they function properly. Unfortunately, for many North Americans, supporting optimal cell function is easier said than done. Stress, poor diet, and environmental toxins – factors that many of us are exposed to on a daily basis – can significantly affect cell performance over time. They can alter our genetic database and cause oxidative damage. As a result, our bodies can become more vulnerable to developing unhealthy conditions with each passing year.

DID YOU KNOW?

- According to a recent Health Canada study, Canadians are opting for fast food instead of fruits and vegetables and generally don't have a balanced diet; other studies show that high-fat foods increase biological stress response markers – which, over time, can contribute to cellular damage
- As we age, the number and function of mitochondria – also known as cellular power plants – decline, which can lead to reduced cellular energy production
- Every day, each cell in your body is assaulted by up to a million free radical attacks that can damage cell DNA
- Excess accumulation of advanced glycation end-product (AGE) proteins can cause cellular damage that can compromise cell integrity and longevity

THE SHAKLEE DIFFERENCE

Always Safe

- ✓ Natural – no artificial flavours, sweeteners, colours, or preservatives
- ✓ Tested for safety and quality more than 16,000 times during development

Always Works

- ✓ Key ingredients in Vivix have been shown in a clinical study and numerous laboratory studies to positively impact:
 - Cell defence
 - Cell energy
 - Cell repair
 - Cell performance

- ✓ Key ingredients are 10 times more powerful than resveratrol alone in slowing cell-damaging AGE protein formation

- ✓ Delivers a broad spectrum of more than 15 beneficial polyphenols

- ✓ Patented and exclusive to Shaklee

Always Green

- ✓ Recyclable bottle and decorator carton
- ✓ No bisphenol-A (BPA) used in packaging
- ✓ Soy-based ink and recycled paper used

Powerful Protection for Your Cells

Global cutting-edge research in cellular protection and years spent in partnership with leading scientists have culminated in Vivix Antioxidant Solution: a scientific breakthrough from Shaklee with ingredients that can protect against and even repair cell damage. Only Vivix contains both resveratrol and a proprietary phytonutrient blend that harnesses the powerful antioxidant properties of rare muscadine grapes.

- Contains key ingredients that have been shown in a clinical study to improve cell defence and in numerous laboratory studies to increase cell energy, promote cell repair, and optimize cell performance
- Natural – no artificial flavours, sweeteners, colours, or preservatives
- Its key ingredients have been shown to be 10 times more powerful than resveratrol alone in slowing cell-damaging AGE protein formation
- Delivers a broad spectrum of more than 15 beneficial polyphenols – including ellagitannins, some of nature’s most potent antioxidants
- Patented and exclusive to Shaklee

NUTRITION FACTS

Serving Size: 1 teaspoon (5 mL)/30 servings per bottle

Amount Per Serving

Calories	15
Total carbohydrate	4 g
MEDICINAL INGREDIENTS:	
Elderberry (<i>Sambucus nigra</i>) powdered fruit extract (standardized to 6.5% anthocyanins)	155 mg
Elderberry (<i>Sambucus nigra</i>) fruit extract (standardized to 3.2% anthocyanins)	460 mg
Trans-resveratrol (from <i>Polygonum cuspidatum</i> , root)	100 mg

NON-MEDICINAL INGREDIENTS: carrot root extract, citric acid, glycerin, magnesium hydroxide, maltodextrin, muscadine grape fruit extract, natural flavours, silicon dioxide, sorbitol, water.

**Muscadine Grapes:
Naturally Superior**

Muscadine grapes contain the full complement of polyphenols such as resveratrol and quercetin, found in other grapes. However, unlike any other grape, the muscadine grape has one extra chromosome and also contains ellagic acid and ellagitannins, which, when combined with other muscadine grape polyphenols, yield immense antioxidant power. These polyphenols stimulate cellular pathways involved in antioxidant defence, longevity and survival, and energy production. It’s no surprise that these unique features of the muscadine grape have led to it being called a “super grape.”

Muscadine grapes can also thrive in harsh environments. Their unique phenolic profile provides extra protection against bacteria, fungi, yeasts, drought, excess moisture, and temperature extremes, while other grapes are much more fragile in these environments.

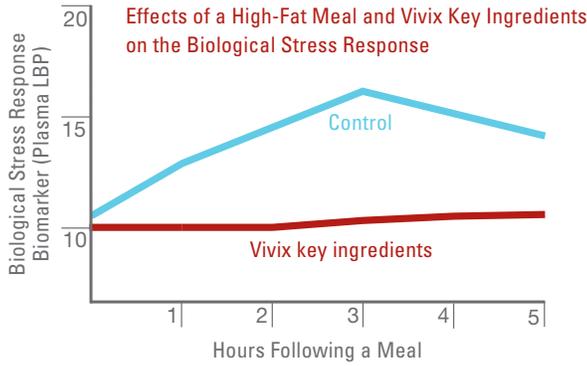


POWERFUL RESULTS

Factors such as stress, poor diet, and environmental toxins can weaken cells' natural defences, lower cell energy, damage DNA, and decrease cell performance – all of which can compromise cell integrity and longevity. In a clinical study and numerous laboratory studies, the key ingredients in Vivix have been shown to positively impact cells in four ways:

1 IMPROVE CELL DEFENCE

In a clinical study, Vivix key ingredients were shown to blunt the biological stress response. Over time, the biological stress response can weaken cells' natural defences.*



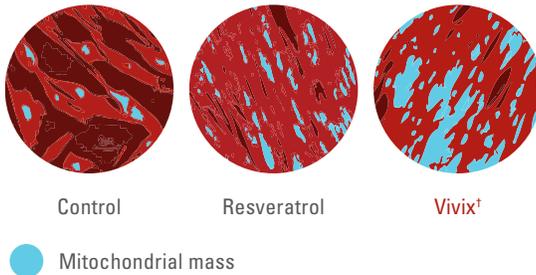
*The study – A Resveratrol and Polyphenol Preparation Suppresses Oxidative and Inflammatory Response to a High-Fat, High-Carbohydrate Meal, published in *The Journal of Clinical Endocrinology and Metabolism* on February 2, 2011 – showed that Vivix key ingredients blocked the increase of a key marker of the biological stress response by up to 40% three to five hours after consuming a high-fat fast food breakfast totalling 930 calories.



2 INCREASE CELL ENERGY

A laboratory study at a leading university showed that Vivix key ingredients increased energy production at the cellular level. Mitochondria produce energy we can't live without. As mitochondria efficiency decreases, cell function declines.

Effects of Vivix Key Ingredients on Mitochondria

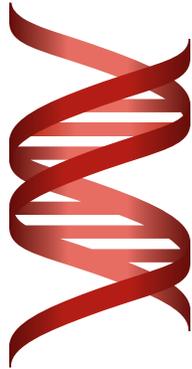


†Vivix = resveratrol + proprietary polyphenol blend.

3 PROMOTE CELL REPAIR

In laboratory studies, Vivix key ingredients were shown to help protect against DNA damage, supporting DNA replication for healthy cell function.

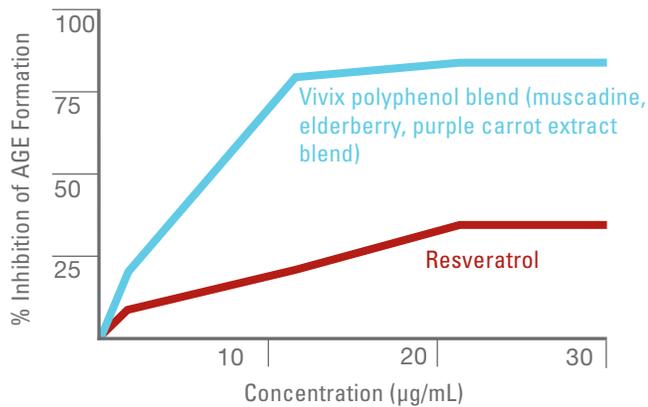
Vivix Key Ingredients Support Healthy DNA at the Cellular Level



4 OPTIMIZE CELL PERFORMANCE

Results from a laboratory study at a leading university showed that key ingredients in Vivix inhibited the formation of AGE proteins, which may result in cellular damage.

Effects of Vivix Key Ingredients on AGE Protein Inhibition



100% Shaklee Guarantee



We stand behind each and every one of our products. The ingredients, purity, safety, and performance of all our Healthy Nutrition, Healthy Weight, Healthy Home, and Healthy Beauty products are 100% guaranteed.

POWERFUL SOLUTION

Some supplements boost cell energy. Others claim to be rich in antioxidants. How does your supplement compare with Vivix?

Does your resveratrol supplement:	Vivix	Your resveratrol supplement
Offer powerful antioxidant protection for your cells?	✓	?
Feature a proprietary extraction process that isolates and preserves bioactive polyphenols of the rare muscadine grape?	✓	?
Deliver a broad spectrum of more than 15 beneficial polyphenols in one serving?	✓	?
Have key antioxidant ingredients shown in a clinical study to blunt the biological stress response, which, over time, can lead to cellular damage?	✓	?
Have key antioxidant ingredients shown in laboratory studies to increase energy production at the cellular level?	✓	?
Have key antioxidant ingredients shown in laboratory studies to protect and repair DNA, which is assaulted millions of times every day?	✓	?
Have key antioxidant ingredients shown in laboratory studies to inhibit the formation of AGE proteins, which may result in cellular damage?	✓	?
Have a natural formula with no artificial flavours, sweeteners, colours, or preservatives?	✓	?

STEPS TO HEALTHIER LIVING

In addition to supplementation, other lifestyle factors can promote better living and a healthier life:

Eat a balanced diet low in saturated fats and rich in fruits and vegetables. Healthy eating habits and nutrition can help prevent illness and may reduce the necessity for medications and health care services over time.

Engage in regular exercise. According to the Public Health Agency of Canada, people who are physically active live longer, healthier lives. They're also more productive and more likely to avoid illness and injury.

Avoid eating too much sugar. The more sugar you eat, the more AGE proteins you develop, which can damage important cellular proteins, including collagen and elastin.

Increase intakes of vitamin D and calcium for healthy bones, high-quality vegetable protein to build muscle and support the immune system, and pharmaceutical-grade fish oil to maintain and support cardiovascular health.

Quit smoking. It's the most effective approach to reducing death and disease.

Finally, reduce the stress in your life, get sufficient rest and sleep, and practise regular oral, vision, and hearing care. Each contributes to physical health and longevity.

WHO SHOULD TAKE VIVIX?

Adults 18 and older interested in healthy living and well-being.

Anyone who's committed to a healthy and balanced lifestyle.

Not recommended for children or pregnant or lactating women.

SCIENTIFIC REFERENCES

¹Cell Defence

Ghanim H, Sia CL, Korzeniewski K, Lohano T, Abuaysheh S, Marumganti A, Chaudhuri A, Dandona P. A Resveratrol and Polyphenol Preparation Suppresses Oxidative and Inflammatory Stress Response to a High-Fat, High-Carbohydrate Meal. *J Clin Endocrinol Metab.*96(5):1409-1414, 2011.

Noratto GD, Angel-Morales G, Talcott ST, Mertens-Talcott SU. Polyphenolics From Açai (Euterpe Oleracea Mart.) and Red Muscadine Grape (Vitis rotundifolia) Protect Human Umbilical Vascular Endothelial Cells (HUVEC) from Glucose- and Lipopolysaccharide (LPS)-Induced Inflammation and Target MicroRN A-126. *J Agric Food Chem* 59(14):7999-8012, 2011.

McDougald LR, Hofacre C, Mathis G, Fuller L, Hargrove JL, Greenspan P, Hartle DK. Enhancement of Resistance to Coccidiosis and Necrotic Enteritis in Broiler Chickens by Dietary Muscadine Pomace. *Avian Dis* 52(4):646-651, 2008.

Ho L, Chen LH, Wang J, Zhao W, Talcott ST, Ono K, Teplow D, Humala N, Cheng A, Percival SS, Ferruzzi M, Janle E, Dickstein DL, Pasinetti GM. Heterogeneity in Red Wine Polyphenolic Contents Differentially Influences Alzheimer's Disease-Type Neuropathology and Cognitive Deterioration. *J Alzheimers Dis* 16(1):59-72, 2009.

Bralley EE, Hargrove JL, Greenspan P, Hartle DK. Topical Anti-Inflammatory Activities of Vitis rotundifolia (Muscadine Grape) Extracts in the Tetradecanoylphorbol Acetate Model of Ear Inflammation. *J Med Food* 10(4):636-642, 2007.

Greenspan P, Bauer JD, Pollock SH, Gangemi JD, Mayer EP, Ghaffar A, Hargrove JL, Hartle DK. Anti-Inflammatory Properties of the Muscadine Grape (Vitis rotundifolia). *J Agric Food Chem* 53(22):8481-8484, 2005.

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Tate P, God J, Bibb R, Lu Q, Larcom LL. Inhibition of Metalloproteinase Activity by Fruit Extracts. *Cancer Lett* 212(2):153-158, 2004.

Ungvari Z, Orosz Z, Rivera A, Labinsky N, Xiangmin Z, Olson S, Podlutzky A, Csiszar A. Resveratrol Increases Vascular Oxidative Stress Resistance. *Am J Physiol Heart Circ Physiol* 292(5):H2417-H2424, 2007.

Csiszar A, Smith K, Labinsky N, Orosz Z, Rivera A, Ungvari Z. Resveratrol Attenuates TNF-Alpha-Induced Activation of Coronary Arterial Endothelial Cells: Role of NF-KappaB Inhibition. *Am J Physiol Heart Circ Physiol* 291(4):H1694-H1699, 2006.

Donnelly LE, Newton R, Kennedy GE, Fenwick PS, Leung RH, Ito K, Russell RE, Barnes PJ. Anti-Inflammatory Effects of Resveratrol in Lung Epithelial Cells: Molecular Mechanisms. *Am J Physiol Lung Cell Mol Physiol* 287(4):L774-L783, 2004.

Shigematsu S, Ishida S, Hara M, Takahashi N, Yoshimatsu H, Sakata T, Korthuis RJ. Resveratrol, a Red Wine Constituent Polyphenol, Prevents Superoxide-Dependent Inflammatory Responses Induced by Ischemia/Reperfusion, Platelet-Activating Factor, or Oxidants. *Free Radic Biol Med* 34(7):810-817, 2003.

²Cell Energy

Lagouge M, Argmann C, Gerhart-Hines Z, Meziane H, et al. Resveratrol Improves Mitochondrial Function and Protects Against Metabolic Disease by Activating SIRT1 and PGC-1. *Cell* 127(6):1109-1122, 2006.

Dasgupta B, Milbrandt J. Resveratrol Stimulates AMP Kinase Activity in Neurons. *Proc Natl Acad Sci USA* 104(17):7217-7222, 2007.

St-Pierre J, Drori S, Uldry M, Silvaggi J, Rhee J, Jäger S, Handschin C, et al. Suppression of Reactive Oxygen Species and Neurodegeneration by the PGC-1 Transcriptional Coactivators. *Cell* 127(2):397-408, 2006.

Civitaresse A, Carling S, Heilbronn L, Hulver M, Ukropcova B, Deutsch W, Smith S, Ravussin E. Calorie Restriction Increases Muscle Mitochondrial Biogenesis in Healthy Humans. *PLoS Medicine* 4(3):e76, 2007.

Lopez-Lluch G, Irueta P, Navas P, de Cabo R. Mitochondrial Biogenesis and Healthy Aging. *Exp Gerontol* 43(9):813-819, 2008.

³Cell Repair

Usha S, Irudayam MJ, Malathi R. Interaction of Resveratrol and Genistein with Nucleic Acids. *J Biochem Molec Biol* 38(2):198-205, 2005.

Niture S, Velu C, Smith Q, Bhat J, Srivenugopal K. Increased Expression of the MGMT Repair Protein Mediated by Cysteine Prodrugs and Chemopreventive Natural Products in Human Lymphocytes and Tumor Lines. *Carcinogenesis* 28(2):378-389, 2007.

Yang S, Irani K, Heffron S, Journack F, Meyskens F. Alterations in the Expressions of the Apurinic/Apyrimidinic Endonuclease-1/Redox Factor-1 (APE/Ref-1) in Human Melanoma and Identification of the Therapeutic Potential of Resveratrol as an APE/Ref-1 Inhibitor. *Mol Cancer Ther* 4(12):1923-1935, 2005.

Zahid M, Gaikwad NW, Rogan EG, Cavalieri EL. Inhibition of Depurinating Estrogen-DNA Adduct Formation by Natural Compounds. *Chem Res Toxicol* 20(12):1947-1953, 2007.

Chakraborty S, Roy M, Bhattacharya RK. Prevention and Repair of DNA Damage by Selected Phytochemicals as Measured by Single-Cell Gel Electrophoresis. *J Environ Pathol Toxicol Oncol* 23(3): 215-226, 2004.

Gatz SA, Keimling M, Baumann C, Dörk T, Debatin KM, Fulda S, Wiesmüller L. Resveratrol Modulates DNA Doublestrand Break Repair Pathways in an ATM/ATR-p53- and Nbs1-Dependent Manner. *Carcinogenesis* 29(3): 519-527, 2008.

God JM, Tate P, Larcom LL. Anti-Cancer Effects of Four Varieties of Muscadine Grape. *J Med Food* 10(1):54-59, 2007.

⁴Cell Performance

Farrar J, Hartle D, Hargrove J, Greenspan P. Inhibition of Protein Glycation by Skins and Seeds of the Muscadine Grape. *BioFactors* 30(3):193-200, 2007.

Hudson T, Hartle D, Hursting S, Nunez N, Wang T, Young H, Arany P, Green J. Inhibition of Prostate Cancer Growth by Muscadine Grape Skin Extract and Resveratrol Through Distinct Mechanisms. *Cancer Res* 67(17):8396-8405, 2007.

Bralley E, Greenspan P, Hargrove J, Hartle D. Inhibition of Hyaluronidase Activity by Vitis rotundifolia (Muscadine) Berry Seeds and Skins. *Pharmaceutical Biology* 45(9):667-673, 2007.

Ramasamy R, Vannucci S, Shi Du Yan S, Herold K, Yan S, Schmidt A. Advanced Glycation End Products and RAGE: A Common Thread in Aging, Diabetes, Neurodegeneration, and Inflammation. *Glycobiology* 15(7):16R-28R, 2005.