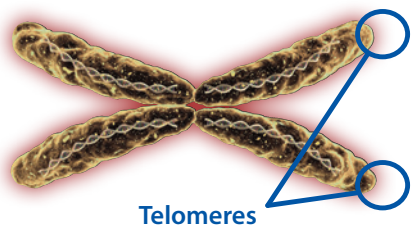


The sirtuin genes (known as Sirt1 through Sirt8) are located in the cell nucleus. They possess a component of the apparatus (Ku-associated apparatus) that functions in repairing double stranded DNA breaks that occur as we age.⁽³⁾ This apparatus also plays an important role in controlling the length of the telomere, which in turn protects the ends of the chromosome from destruction. Because of this role, the sirtuins are considered regulators of the cellular defense systems and thus play a role in longevity.



In conjunction with Dr. Mark Houston, Biotics Research Corporation has developed a line of products which support sirtuin activity.

These products include **VasculoSirt®**, **Lipid-Sirt®**, **EFA-Sirt Supreme®**, **ResveraSirt-HP®**, **Bio-CardioSirt BP®** and **Red Yeast Rice**. These products contain key STACs.

Together, these products have a positive impact on the sirtuin genes. The utilization of STACs offers promising healthy alternatives to standard interventions with toxic side effects, while also offering significant anti-aging properties.

For more information,
consult your Healthcare Professional.



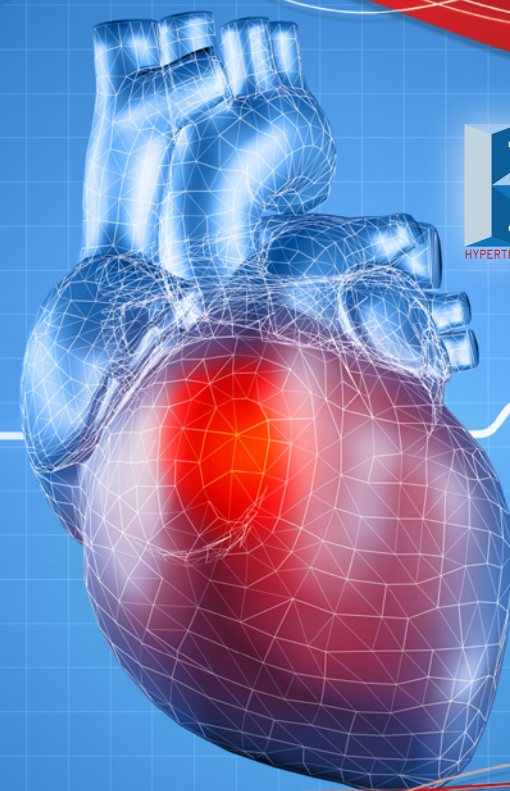
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Sirtuins

*Because Healthy Aging Requires Healthy
Arteries and a Healthy Heart*



Vascular Aging Support from



Why Sirtuins?

Support for vascular integrity and healthy aging by supporting and stimulating sirtuin activity



VasculoSirt® - The key Sirtuin-activating compounds (STACs) in this revolutionary cardiovascular supplement product include resveratrol and quercetin. The primary objective of **VasculoSirt®** is to slow vascular aging and promote both vascular and heart health. Case studies have demonstrated improvements in athletic performance, maintenance of healthy blood pressure and lipid panel, as well as a decrease in C-reactive protein (HSCR). Improvements in both Carotid Intima-Media Thickness and Computerized Pulse Waveform Analysis (CAPWA) have also been observed, establishing its beneficial effects on cardiovascular function.

EFA-Sirt Supreme® offers a high potency mix of EPA, DHA and GLA, along with a high concentration of the delta gamma tocopherol form of vitamin E. It is specifically designed to target vascular health. In animals, omega-3 fatty acids have proven effectiveness in reversing a reduction in Sirt1.⁽¹⁾ Sirt1 is the main deacetylase in the regulation of genes involved in mitochondrial and fatty acid utilization. In response to low nutrients or a low level of glucose, cells increase the rate of fatty acid oxidation. Sirt1 is required for this increased rate of fatty acid oxidation in response to low glucose and has been implicated as the "metabolic regulator", permitting the switch from glucose to fatty acid oxidation in nutrient deprivation conditions.⁽²⁾

ResveraSirt-HP® - Trans-resveratrol, the primary component in **ResveraSirt-HP®**, is a natural polyphenolic phytochemical, found in over 70 species of plant flora, including grapes, red wine and even peanuts. The most common source is

Japanese Knotweed (*Polygonum cuspidatum*). However, not all sources of Trans-resveratrol are created equal. Routine testing in our in-house laboratories has resulted in our rejection of multiple lots due to unacceptably high levels of benzopyrene, a polycyclic aromatic hydrocarbon and known carcinogen. Resveratrol possesses a diverse array of biochemical and physiological actions, and has been demonstrated to mimic calorie restrictions by stimulating SIRT2. Published studies suggest that in yeast, this action extends lifespan by 70%, and in animals increased lifespan by 30%. In the same study, it was also shown to increase DNA stability, which also has a positive impact on life expectancy. In both acute and chronic models of cardiovascular disease, resveratrol has demonstrated cardiac protection by virtue of its modulation of cellular vascular function and its ability to inhibit LDL oxidation. Additionally, it possesses both antioxidant and anti-inflammatory properties, playing a key role as a regulator of NF-kappaB.

Lipid-Sirt® - It is well documented that specific nutrients have a positive effect on cholesterol levels. These specific nutrients are included in **Lipid-Sirt®**. Pantethine has been demonstrated to significantly increase levels of HDL, the good cholesterol. A lower level of both total and LDL cholesterol has also been demonstrated with the use of phytosterols. Green tea extract has antioxidant properties and was found to decrease cholesterol solubility, resulting in reduced intestinal absorption. Delta tocotrienol is an effective free radical scavenger and an inhibitor of HMG-CoA (the rate limiting step in cholesterol synthesis). However, unlike statin drugs, it does not inhibit the synthesis of CoQ10. Phytolens® is a patented proprietary

procyanidin compound exclusively from Biotics Research, possessing potent antioxidant and anti-inflammatory activities.

Red Yeast Rice - The yeast *Monascus purpureus* grown on rice is known in the nutritional industry as Red Yeast Rice (RYR). In many Asian countries it is a dietary staple. The major components of RYR are the monacolins. In Traditional Chinese medicine (TCM), **Red Yeast Rice** has been utilized for thousands of years. To ensure safety Biotics Research's **Red Yeast Rice** is screened for the mycotoxin citrin. Interestingly, the yeast in **Red Yeast Rice** is inactive. It is available as a stand alone product, but is also available in **Dr. Houston's Lipid Kit**, a combination of **Lipid-Sirt®**, for optimal lipid profiles, **Niacin 100™**, and **Red Yeast Rice**.

Bio-CardioSirt BP® - Blood pressure increases with age as a consequence of the interaction of our environment, genetics and lifestyle including exercise and the dietary intake of macro and micronutrients. Nutrient-gene interactions and oxidative stress influences vascular biology in humans. **Bio-CardioSirt BP®** supplies a unique (patent pending) combination of 7 key micronutrients that have clinically proven to support normal, healthy blood pressure levels.

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3. Michan S, Sinclair D. Sirtuins in mammals: insights into their biological function. Biochem J. 2007 May 15; 404 (1): 1-13.