

# Lipotrienols RYR™



Natural Lipid Management & Optimization  
of Cardiac & Vascular Health

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**Lipotrienols RYR™** is a powerful combination of natural substances intended to favorably modulate the blood lipid profile and optimize cardiac and vascular health, including high delta-fraction tocotrienols, organic red yeast rice extract (*Monascus purpurea*), and lycopene with added sunflower lecithin for bioavailability.

## Organic Red Yeast Rice (*Monascus purpureus*)

Red yeast rice is the product of yeast (*Monascus purpureus*) grown on rice, containing several compounds collectively known as monacolins, substances known to modulate blood lipids.<sup>1</sup> Overall, studies suggest that RYR may reduce cardiovascular risk<sup>2-3</sup> by virtue of its lipid modulating,<sup>1</sup> anti-inflammatory,<sup>4</sup> antioxidant,<sup>5</sup> and antimicrobial properties, as well as its ability to lower blood pressure and reduce proliferation of the arterial layer known as the intima, the area of the vessel where atherosclerotic lesions occur.<sup>6-8</sup>

The red yeast rice in Lipotrienols RYR™ is USDA certified organic and grown in the US. We take great care to assay our red yeast rice to assure that there are undetectable levels of citrinin (< 1 ppm), as well as substantial levels of naturally-occurring monocolin compounds (4 mg per 2 capsule serving).

## Tocotrienols

Research by Bristol Myers Squibb and other has demonstrated that delta and gamma tocotrienols are the most effective tocotrienol fractions at modulating blood lipids, especially in the absence of tocopherols.<sup>9</sup> Tocotrienols are often supplied from rice bran oil or palm oil. These contain between 30-50% tocopherols. Tocopherols greater than 20% decrease the effect of tocotrienols on modulating blood lipids. Annatto tocotrienols, used in Lipotrienols RYR™, are a unique makeup of 90% delta-tocotrienol and 10% gamma-tocotrienol with zero tocopherols. Research has clearly proven the ability of tocotrienols to modulate blood lipids.<sup>10</sup> Tocotrienols decrease the conversion of farnesyl, a mevalonate derived intermediate, to farnesol, which usually goes on to make squalene and ultimately cholesterol. The increasing farnesol pool then signals the proteolytic degradation and downregulation of the HMG-CoA reductase enzyme. Tocotrienols also upregulate LDL receptors and LDL clearance and also inhibit the progression of carotid artery stenosis that may lead to stroke.<sup>9-10</sup>

Profound synergism has been demonstrated in the peer-reviewed literature regarding the concomitant use of both lovastatin and tocotrienols in favorably altering serum lipid profiles and reducing biomarkers of cardiovascular risk.<sup>11-12</sup> For example, a 14% reduction in total cholesterol was seen when used alone vs. a 20% reduction when taken together.<sup>13</sup> Since red yeast rice is also a HMG-CoA reductase inhibitor, it is likely that similar synergistic effects between red yeast rice and tocotrienols would also be observed.

## Lycopene

Lycopene is a carotenoid present in human serum, liver, adrenal glands, lungs, prostate, colon, and skin at higher levels than other carotenoids. Lycopene has been found to possess antioxidant and antiproliferative properties in animal and in vitro studies. Numerous epidemiological investigations have correlated high intake of lycopene-containing foods or high lycopene serum levels with reduced incidence of cancer, cardiovascular disease, and macular degeneration.<sup>14-16</sup> A group of researchers gave postmenopausal women either HRT (hormone replacement therapy) or 2 mg lycopene. Both gave similar significant reductions in total cholesterol and LDL and an increase in HDL.<sup>17</sup> Women who do not wish to use HRT during menopause can receive the same protection from coronary artery disease by consuming lycopene.

## Supplement Facts

Serving Size 2 capsules  
Servings Per Container 30

Amount Per Serving	% Daily Value
Organic Red Yeast Rice ( <i>Monascus purpureus</i> )	1.2 g *
Tocotrienols (delta, gamma)†	100 mg *
Lycopene	20 mg *

\*Daily Value not established.

**Other Ingredients:** Cellulose (capsule), sunflower lecithin, vegetable stearate.

†From DeltaGold®, a tocopherol-free tocotrienol naturally extracted from annatto beans, under US patent (6,350,453) to American River Nutrition, Inc.



## Sunflower Lecithin

Lecithin helps to enhance absorption of lycopene and likely aids absorption of the other fat-soluble compounds such as the tocotrienols.

### Should Other Nutrients be Combined with Lipotrienols RYR™?

Since Lipotrienols RYR™ affects the HMG-CoA-reductase enzyme, although more subtly than statin medications, it may mildly reduce endogenous production of coenzyme Q10. Therefore, it is advised that those taking Lipotrienols RYR™ also take supplemental CoQ10, such as Q-Evail™ or CoQnol™.

### Who Should Not Take Lipotrienols RYR™?

This product is not recommended for pregnant and lactating women. Cholesterol levels naturally increase during pregnancy to support the necessary increase in hormone production.

#### How to Take:

- As a dietary supplement, take two capsules per day in the evening with food, or as directed by your health care practitioner. For best results, do not take within six hours of taking a vitamin E supplement containing d-alpha tocopherol.
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## References

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