

Red Yeast Rice

COMMON NAME: Red Yeast Rice

SCIENTIFIC NAME: Monacolin K

RECOMMENDED WITH CAUTION

LEVELS OF EVIDENCE



Recommended:

Several well-designed studies in humans have shown positive benefit. Our team is confident about its therapeutic potential.



Recommended with Caution:

Preliminary studies suggest some benefit. Future trials are needed before we can make a stronger recommendation.



Not Recommended - Evidence:

Our team does not recommend this product because clinical trials to date suggest little or no benefit.



Not Recommended - High Risk:

Our team recommends against using this product because clinical trials to date suggest substantial risk greater than the benefit.

Evaluated Benefits

Lowering of total, non-HDL, and LDL cholesterol and triglycerides (but more expensive for some LDL effect than pharmaceutical strains).

Source

Powdered fermented product of *Monascus purpureus* (red yeast) grown on white polished rice

Indications/Population

Patients with hypercholesterolemia

Patients intolerant of prescription statins

Mechanism of Action

Red yeast rice (RYR) contains small amounts of monacolin K. This is the same substance isolated from the fungus *Monascus ruber* by Akira Endo in 1979 and from *Aspergillus terreus* by Hoffmann and coworkers the same year, and later commercialized as the drug lovastatin, a 3-hydroxy-3-methylglutaryl coenzyme (HMG-CoA) reductase inhibitor.

It has been suggested that the cholesterol-lowering effect of RYR products in general may not be accounted for by its monacolin K content alone. The other monacolins present in RYR — including monacolins J, L, and X and dihydromonacolin L, monacolin M, and dihydromevinolin (known as secondary metabolites) — may play a synergistic inhibitory effect on HMG-CoA reductase.

The reason RYR has been given a yellow status is that, even without monacolin K, it is effective in reducing LDL cholesterol levels in several well-authored studies.

RYR also contains plant sterols such as beta-sitosterol and campesterol, isoflavones, monounsaturated fatty acids fiber, and vitamin B3 (niacin), all of which are thought to play a role in reducing serum cholesterol levels.

Side Effects

Red yeast rice has been reported to rarely cause myopathy, rhabdomyolysis, and hepatotoxicity.

Minor events include heartburn, flatulence, dizziness, and loose stools.

Dosing

600–1,200 mg twice daily

Drug Interactions/Cautions

Safety of different commercial preparations containing RYR products is still a matter of debate. There is, indeed, wide variability of composition among commercial products containing RYR.

Some RYR products were found to contain citrinin, a mycotoxin produced by several *Monascus*, *Penicillium*, and *Aspergillus* species, which can cause kidney failure in animals and whose effects on human health are still unknown.

Notes

A dose of red yeast rice of 600 mg twice daily is as effective as 20–40 mg of pure lovastatin in lowering cholesterol. The equal effect is thought to come from the other monacolins in red yeast rice.

Since 2001, the FDA has required manufacturers to remove the monacolin K content from all RYR products. However, it is still found in products at variable amounts.

RYR should be taken under the guidance of a physician who will closely monitor its efficacy, safety, and tolerability.

On June 25, 2007, the FDA published the dietary supplement Current Good Manufacturing Practices (CGMP), which require that proper controls be in place by dietary supplement companies to ensure products are manufactured and processed in a consistent manner. The CGMP also requires companies to produce high-quality products that are not adulterated with impurities or contaminants and that they are accurately labeled.

References

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