

Red Yeast Rice: The Truth Behind This Controversial Cholesterol-Lowering Supplement

By [Annie Price, CHHC](#)

August 22, 2017



The most well-known of red yeast rice benefits is by far its potential to **lower cholesterol**. Many people with high cholesterol turn to red yeast rice supplements to avoid the dangers of statins. These cholesterol-lowering drugs known as statins have been linked with some really concerning side effects, including memory loss, liver damage, muscle pain, high blood sugar, and even development of type 2 diabetes. (1)

Scientific studies have demonstrated that supplementing with red yeast rice can lower overall as well as LDL cholesterol, aka “bad cholesterol.” (2) According to Traditional Chinese Medicine, benefits of red yeast rice also include improvements in circulation and digestion. Red yeast rice supplements are extremely popular so let’s take a look at the possible benefits as well as the controversy surrounding this natural over-the-counter remedy.

What Is Red Yeast Rice? So what is red yeast rice? Sometimes called RYR for short, red yeast rice is created by fermenting a type of yeast called *Monascus purpureus* with rice. Once the rice is combined with the fermenting yeast, the resulting red yeast rice is bright reddish purple in color. Red yeast rice extract (RYRE) is used to make a red yeast rice supplement.

So what makes RYR possibly beneficial to health concerns like high cholesterol? The interesting thing is that it has naturally occurring chemical called monacolins, which block the production of cholesterol. One of these monacolins sometimes found in RYR supplements, called monacolin K, has been controversial because this chemical is said to be an active statin-like compound with the same chemical makeup as popularly prescribed statins like lovastatin and mevinolin. (3) This is a concern because we know the potential **dangers of statins** include muscle pain and weakness, neuropathy, heart failure, dizziness, cognitive impairment, cancer, pancreatic rot and depression.

Experts aren't clear on whether RYR successfully lowers cholesterol because it contains monacolins or because of its naturally occurring plant compounds like phytosterols and isoflavones as well as its unsaturated fatty acid content. Some researchers believe that since the monacolin in red yeast rice is less than what is found in prescription statins these other substances must also play a role in red yeast rice's ability to decrease cholesterol. (4)

In 1998, the U.S. Food and Drug Administration (FDA) began to regulate manufactures of RYR supplements and said that supplements containing monacolin K are considered drugs rather than dietary supplements. Since that time, the FDA has taken legal action against companies making red yeast rice supplements with greater than trace amounts of monacolin K. According to the National Center for Complementary and Alternative Medicine, "Despite the FDA actions, some red yeast rice products currently on the market in the United States may contain monacolin K. (Some products tested as recently as 2011 have been found to contain it in substantial amounts.) Other products may contain little or none of this component." (5)

I'll talk more about choosing the best RYR supplements, but first, let's talk about the possible health benefits.

5 Health Benefits of Red Yeast Rice

1. Help for High Cholesterol

Red yeast rice supplements are most often taken to **naturally lower hyperlipidemia** or high cholesterol. The red yeast (*Monascus purpureus*) used to make RYR has been shown to stop the action of an enzyme in the human body that helps form cholesterol. There have been a lot of studies showing the positive effects of red yeast rice extract on cholesterol.

A 2010 study published in the *American Journal of Cardiology* looked at the effects of red yeast rice supplementation on patients who could not tolerate conventional statin drugs. The results for the 25 patients treated with RYR for at least four weeks or more were pretty impressive. On average, for the people taking red yeast rice who could not tolerate statins, their total cholesterol decreased by 13 percent, LDL cholesterol went down by 19 percent and the red yeast rice was generally well-tolerated. (6)

Another study published in the *European Journal of Cardiovascular Prevention and Rehabilitation* evaluated the effects of red yeast rice (also called Went rice) on 79 patients with high cholesterol between 23 and 65 years of age. These patients took either 600 milligrams of red yeast rice or a placebo two times per day for a total of eight weeks. The study results revealed that the subjects who took the RYR showed “significantly greater reduction” in LDL (“bad”) cholesterol levels as well as total cholesterol. (7)

Additional studies have shown decreases in cholesterol from RYR as follows:

- 1.2 grams per day lowered LDL levels by 26 percent in eight weeks.
- 2.4 grams per day reduced LDL levels by 22 percent and total cholesterol by 16 percent in 12 weeks.

2. Less Muscle Fatigue Symptoms

One of the main complaints with statin users is muscle fatigue. In fact, it’s estimated that between 10 percent to 15 percent of statin users experience skeletal muscle issues. A 2017 study looked at the effects of 60 patients with abnormally high cholesterol levels and with low to moderate cardiovascular risk taking either simvastatin or RYR.

After four weeks of taking either the statin or the RYR, the subjects who took the simvastatin had a significantly higher **muscle fatigue** score compared to the RYR group, who experienced no significant changes in muscle health. Even though both groups had decreases in their cholesterol, the researchers noted that the statin takers engaged in less physical activity (I’m guessing that could be related to the muscle fatigue). Overall, this study concludes that red yeast rice worked just as well for subjects as the statin but with less fatigue. (8)

3. Possible Obesity Aid

A 2015 study published in the *Journal of Medicinal Food* looked at how effective red yeast rice is in the **treatment of obesity** and high cholesterol, which are two common health concerns that often occur together. The researchers separated animal subjects into five groups: normal diet, high-fat diet with no treatment, and three high-fat diet groups given either one gram per kilogram a day of red yeast rice for eight weeks, one gram per kilogram a day of RYR for 12 weeks or 2.5 grams per kilogram daily for eight weeks.

What did the researchers find? The supplementation with RYR actually prevented weight gain and also improved the atherogenic index of subjects. The atherogenic index of plasma provides information about cholesterol ratios in the body, and it is used as a marker to predict the risk of atherosclerosis and **coronary heart disease**. The conclusion of the study: “These findings suggest that RYR has therapeutic potential in treating obesity and hyperlipidemia.” (9)

4. Reduction in Biomarkers of Oxidative Stress

In 2017, results were published for a double-blind, placebo-controlled, randomized trial that involved 50 patients with **metabolic syndrome** and the effects of a supplement containing both

red yeast rice and olive extract. Metabolic syndrome is a health disorder that involves having a combination of three or more of the following health issues: abdominal obesity, hypertension, high blood sugar, elevated triglyceride levels or low HDL (“good”) cholesterol.

This trial found that supplementing with red yeast rice and olive extract greatly decreased lipoprotein-associated phospholipase A2 (Lp-PLA2) as well as oxidized low-density lipoprotein (OxLDL). This is significant since Lp-PLA2 and OxLDL are biomarkers of oxidative damage or stress, which plays a major role in disease formation. In this case, reduction of these two markers have been associated with a lower risk of heart disease in people with metabolic syndrome. (10)

5. Improvement in Insulin Sensitivity

A study published in the *World Journal of Cardiology* in 2012 demonstrates that red yeast rice extract may also help with healthy maintenance of **normal blood sugar levels**. This study specifically looked at the effects of a supplement containing **berberine**, red yeast rice and policosanol compared to a placebo on insulin resistance in people with metabolic syndrome.

After 18 weeks, the group who took the supplement containing RYR had a significant decrease in **insulin resistance** as well as both LDL and overall cholesterol. (11)

How to Find and Use Red Yeast Rice

Red yeast rice supplements are extremely easy to find at your local health store or online. Any RYR supplement should be taken with food. It is also best taken with CoQ10 (at least 90–120 milligrams daily) to prevent deficiency in **CoQ10**.

What about the best red yeast rice dosage? Most studies have used a standardized extract of 600 milligrams taken two to four each day — so that can be 1,200 milligrams twice a day, which is equivalent to 600 milligrams four times per day or 2,400 milligrams per day. At least one study has shown that elderly individuals who took 1,200 milligrams (1.2 grams) of RYR every day for eight weeks did not have any major side effects.

The amount of monacolins in RYR supplements can differ since manufacturers can use various yeast strains and fermentation processes. Some research has shown that the amount of monacolin in RYR supplements can be anywhere from zero to 0.58 percent of the final product. This was just one study with different brands, but it’s still pretty interesting.

Red yeast rice reviews vary but often say that it only took some people with high cholesterol supplementing their diets with RYRE for a matter of months before they saw a significant decrease in their cholesterol numbers. (12)

Red Yeast Rice History and Interesting Facts

Red yeast rice is also sometimes referred to as several other names, including RYR, Went rice, red fermented rice, red rice koji, akakoji, red kojic rice, red koji rice or anka. "Koji" in Japanese means "grain or bean overgrown with a mold culture." Red yeast rice has been used in **Traditional Chinese Medicine** for over a thousand years to address health concerns related to poor circulation and poor digestion.

In Asia as well as Chinese communities in North America, powdered RYR is used to color a variety of consumable products, including **tofu**, meat, fish, cheese, vinegar and pastries. Can you taste the red yeast rice? It's said that adding red yeast rice to foods provides a subtle yet enjoyable flavor.

Red yeast rice can also be found in some alcoholic drinks, such as Korean rice wines and Japanese sakes. As you might expect, adding RYR to the beverages results in a reddish tint.

In Asia, naturally occurring red yeast rice is commonly consumed on a regular basis. It is estimated that people in Asia are eating somewhere between 14 to 55 grams of RYR each day. [\(13\)](#)

Possible Side Effects and Caution

Anyone under the age of 20 should not use red yeast rice supplements. You should also avoid RYR if you have an allergy or sensitivity to rice, red yeast or members of the *Monascaceae* (yeast) family.

Research has shown that red yeast rice side effects (often mistakenly searched for as "red rice yeast side effects") are typically mild. Side effects of red yeast rice can include headache, upset stomach, heartburn, gas or dizziness. Muscle aches and weakness are also possible, especially if the RYR supplement contains high levels of monacolin, and can result in a rare yet serious condition called **rhabdomyolysis**. If you experience muscle aches and weakness, discontinue use of red yeast rice and contact your doctor.

RYR supplements should not be taken while breastfeeding, pregnant or trying to become pregnant. It's also recommended to avoid red yeast rice if you have kidney disease, liver disease, thyroid issues, musculoskeletal disorders or if you have a higher risk of cancer. You should also avoid red yeast rice if you have any kind of serious infection or physical condition, have had an organ transplant, or if you consume more than two alcoholic beverages per day.

It is recommended to avoid taking red yeast rice if you are already taking any of the these medications already: [\(14\)](#)

- Statins or other cholesterol drugs
- Serzone (an antidepressant)

- Antifungal drugs
- Immune system suppressing drugs, such as cyclosporine
- The antibiotics erythromycin and clarithromycin (Biaxin)
- Protease inhibitors used to treat HIV

It's a good idea to take a RYR supplement under the supervision of a health care professional, especially if you are being treated for any health concerns or are currently taking any medication.

Final Thoughts on Red Yeast Rice

Red yeast rice is a really interesting supplement. Scientific studies have shown that it can benefit some major health concerns, especially high cholesterol. If your doctor recommends taking a statin, it can't hurt to ask what he or she thinks of taking a red yeast rice supplement instead. Some physicians are known to be willing to have their patients try a scientifically researched supplement like RYR.

If you have high cholesterol, it's also crucial to focus on your diet and exercise. If you do decide to try red yeast rice, make sure it is from a reputable source, ideally one that has strict standards for evaluating the supplements it sells to customers like you.