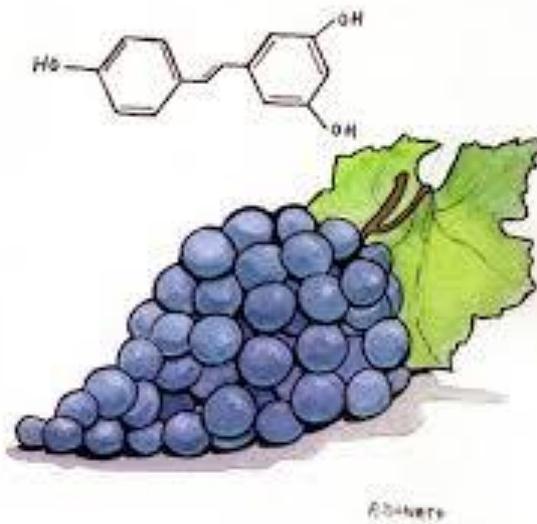


Why is Resveratrol Good for Our Eyes?

Research on resveratrol began with interest in the “French paradox,” which describes improved cardiovascular results in the French despite a high-fat diet. This compound was first mentioned by Michio Takaoka, a Japanese, in 1939 after he isolated it from the root of the *Veratrum grandiflorum* plant and hence the name “resveratrol” was derived from the *Veratrum* species.

The term “French paradox” was born in 1992 based on epidemiological data from French people who had a low incidence of heart disease, despite eating a diet in high in saturated fat. Researchers Renaud and de Lorgeril¹ proposed that moderate wine consumption is the reason for this apparent discrepancy. As of 2018, survey results indicate that more than 80 percent of both French men and women enjoyed drinking wine.

Resveratrol is a stilbenoid, a type of natural phenol and a phytoalexin produced by many plants in response to injury or when the plant is under attack by pathogens, such as bacteria or fungi.



We get resveratrol from various foods such as:

- grapes (skin)
- blueberries
- raspberries
- mulberries
- peanuts and
- cocoa

¹ Renaud, S. and de Lorgeril, M. (1992) Wine, alcohol, platelets, and the French paradox for coronary heart disease. *Lancet*, 339, 1523-1526. doi:10.1016/0140-6736(92)91277-F

The truth is that while red wine is a relatively rich source of resveratrol, there are other polyphenols present in higher concentrations than resveratrol, which is only a minor compound in the complete set of grape and wine polyphenols.

Resveratrol is well known for its medicinal use to protect the body against cancer and heart disease. Vision scientists at Washington University School of Medicine have identified another possible benefit.²

They gave resveratrol to mice that developed abnormal blood vessels, a condition similar to age-related macular degeneration (AMD). When the mice ingested the chemical from red wine, they didn't grow as many abnormal blood vessels.

The first study on humans to determine the concentrations of resveratrol in eye tissue and its metabolites after taking it orally, was conducted in 2016 at Tongji Hospital, China. Since then many studies have been conducted on the effects of resveratrol within the eye and its related disorders.

A scholarly article published in 2016 on "Resveratrol and ophthalmic diseases," by Abu-Amero, Kondkar, and Chalam from the ophthalmology departments of University of Florida College of Medicine, USA and King Saud University, Saudi Arabia found the following. Resveratrol has major biological effects on the eye, such as:

- anti-oxidative (reducing oxidative stress)
- anti-apoptotic (inhibiting cell death)
- anti-tumorigenic (counteracting the formation of tumours)
- anti-inflammatory (reducing swelling, tenderness, fever and pain)
- anti-angiogenic (preventing the formation of new blood vessels); and
- vasodilator (promotes the dilatation of blood vessels).

Oxidative stress and inflammation play a critical role in the initiation and progression of age-related ocular diseases, including glaucoma, cataract, diabetic retinopathy, and AMD that lead to progressive loss of vision and blindness, if untreated.

These studies emphasise the importance of reducing the amount of oxidation that occurs in the retina of AMD patients and suggests that the anti-oxidative effect of resveratrol supplementation may be beneficial in preventing Retinal Pigment Epithelium degeneration. The study also showed that resveratrol suppressed inflammatory compounds in patients with glaucoma. Resveratrol acts as an anti-apoptotic, which "*seems to be an important contributing factor in the prevention of disease of a neurodegenerative nature, such as AMD.*"³ This plant protector also has the ability to protect our eyes following optic nerve injury.

A few excerpts from published papers bring to light the importance of why we should include resveratrol sources or supplements in our diet.

² <https://medicine.wustl.edu/news/podcast/resveratrol-and-vision/>

³ DOI: 10.3390/nu8040200

"Prevents oxidative stress-induced and sodium iodate-induced apoptosis of human RPE cells".⁴

"Protective effect against light-induced retinal degeneration".⁵

"Shown to suppress diabetic changes such as increased vessel leakage, pericyte loss and VEGF protein levels in the retinas of mice induced with diabetes".⁶

Research on this wonder plant protector for our ocular health continues, but as things stand today, it is clear that Mr. Takaoka's botanical derivative is proving to be a valuable addition to our diet for the positive, therapeutic role it plays in maintaining the health of our eyes.

⁴ *Ibid.*

⁵ Bola, C., Bartlett, H. & Eperjesi, F. *Graefes Arch Clin Exp Ophthalmol* (2014) 252: 699

⁶ DOI: 10.1111/j.1755-3768.2011.02243