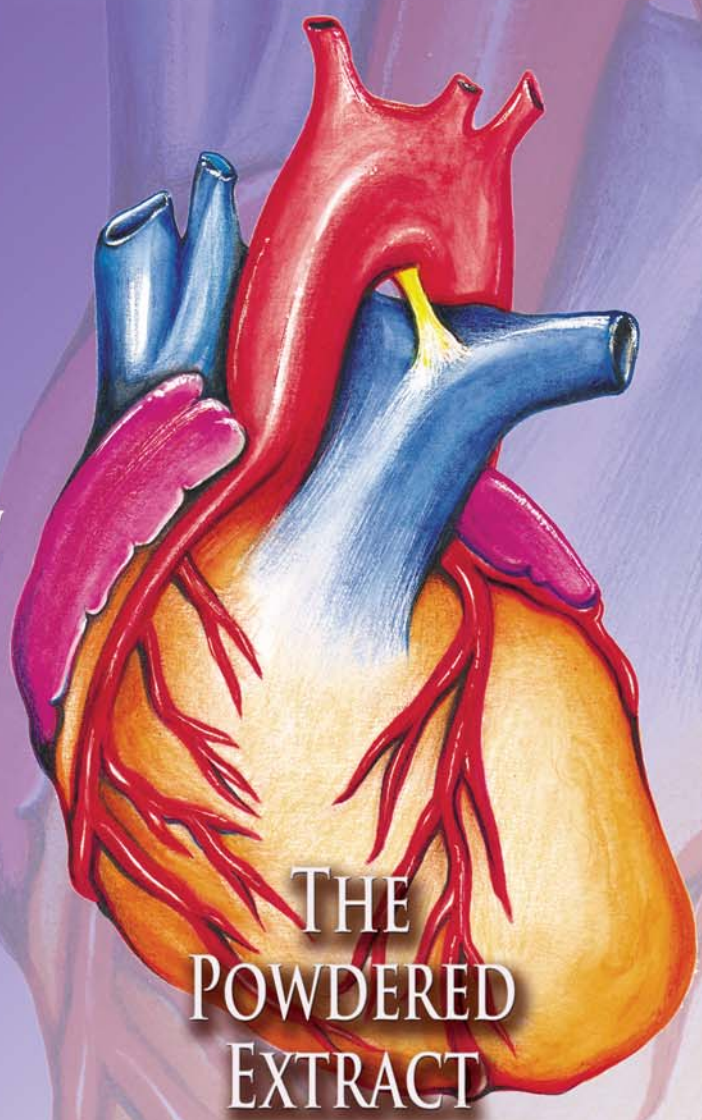


Resveradox™

THE RIGHT 'MIX'

- Made from an extract of *Polygonum cuspidatum* root, one of the richest sources of *trans*-resveratrol
- A potent cardiovascular antioxidant
- Water-soluble powder dissolves instantly
- Unmatched Solubility

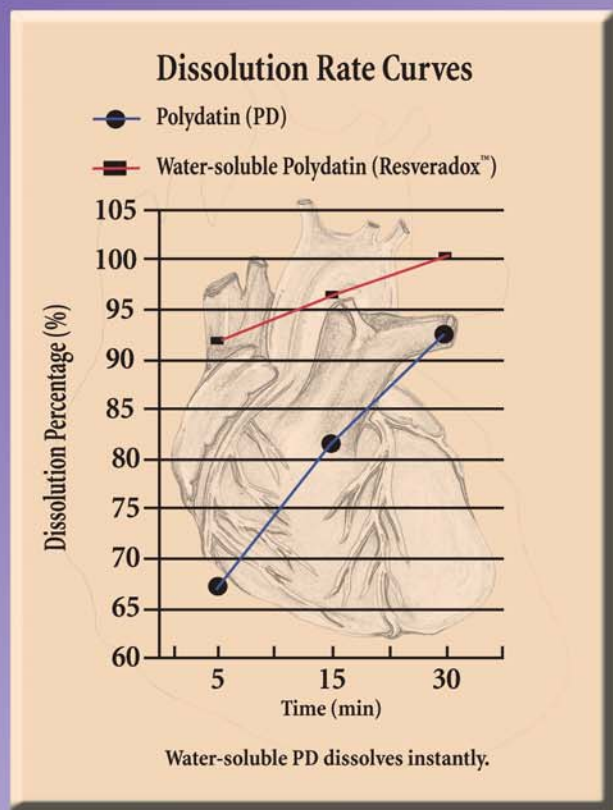


THE
POWDERED
EXTRACT

-FROM-

OPTIPURE
BRAND
CHEMCO INDUSTRIES INC.

800.934.3040
www.optipure.com



Resveradox™

Unmatched Solubility

The French Paradox and Resveratrol

Saturated fat has been given the nickname "artery-clogging fat" by the Center for Science in the Public Interest—the nonprofit consumer advocacy group known for exposing the large amounts of fat in movie theater popcorn. According to the USDA's Dietary Guidelines for Americans 2005, high intakes of saturated fat, which increase the risk of unhealthy blood lipid levels, may ultimately increase the risk of coronary heart disease. Yet, the people in France suffer a relatively low incidence of this cardiovascular disease, despite a diet stuffed with cream, butter, cheese, and meat... all rich sources of saturated fat. This curious observation has been coined the "French Paradox," and has baffled scientists for more than a decade. It has been suggested that France's high consumption of red wine is a primary factor in this phenomenon.

Resveratrol is a naturally occurring stilbene that scientists suspect plays a role in the cardioprotective properties of red wine and might help explain the French Paradox. This polyphenol is part of a class of compounds known as phytoalexins, which are produced by plants in response to stress. It is fat-soluble, and occurs in a *cis* and *trans* configuration. Both *cis*- and *trans*-resveratrol also occur as glucosides (bound to a glucose molecule). Other names for resveratrol-3-O-beta-glucoside are piceid and polydatin.

The sources of resveratrol primarily include: red wine, red grape skins, purple grape juice, mulberries, and peanuts. It is also found in eucalyptus, spruce, and *Bauhinia racemosa*. *Polygonum cuspidatum*, the roots of which are used in Chinese and Japanese traditional medicine, is considered to be one of the richest sources of *trans*-resveratrol. The *trans*-resveratrol content of wine is highly dependent on grape type, climate, and practices used to make the wine. Unfortunately, the amount of resveratrol in grapes is very low compared to *Polygonum cuspidatum* roots.

Several activities may account for resveratrol's possible cardio protective action. Preliminary evidence suggests that *trans*-resveratrol has antioxidant activity and also causes blood vessel dilation. It scavenges free radicals and other oxidants and inhibits low density lipoprotein (LDL) oxidation. Resveratrol has been found to exert a number of potentially cardioprotective effects *in vitro*, including the inhibition of platelet aggregation, promotion of vasodilation by enhancing the production of nitric oxide, and inhibition of inflammatory enzymes.

Resveradox™

Resveradox™ is a β -cyclodextrin, water-soluble extract of *Polygonum cuspidatum*. Resveratrol has fat-soluble (lipophilic) properties, but a cyclodextrin delivery system enables this ingredient to be soluble in an aqueous solution. Cyclodextrins have been used to effectively deliver lipophilic molecules in a stable, bioactive form. They are cyclic oligosaccharides that have a hydrophobic interior, and are

capable of encapsulating poorly-soluble nutrients. The hydrophilic exterior allows for solubilization. Resveratrol, a hydrophobic substance, can be complexed with cyclodextrins, enabling it to become more soluble, stable, and bioavailable. Another benefit of complexing nutrients with β -cyclodextrin (a naturally-occurring cyclodextrin) is that the fat-soluble ingredients are protected against oxidation and UV-degradation during storage or processing.

With its enhanced solubility in water, Resveradox™ can be utilized in ready-to-drink powder formulas. Compared to resveratrol, water-soluble Resveradox™ dissolves instantly (see Dissolution Rate Curve). Resveradox™ is backed by several animal studies, demonstrating its effects on platelet aggregation, blood lipids and atherosclerosis, and evaluation of safety.

The advantages of the French Paradox can be obtained with Resveradox™, without the hangover that sometimes accompanies drinking too much wine. Contact your OptiPure® sales representative today to learn how you can incorporate this beneficial cardiovascular nutrient in your beverage formula today.

References:

- Chen CK, Pace-Asciak CR. Vasorelaxing activity of resveratrol and quercetin in isolated rat aorta. *Gen Pharmacol* 1996;27:363-6.
- Hung L-M, Chen J-K, Huang S-S, et al. Cardioprotective effect of resveratrol, a natural antioxidant derived from grapes. *Cardiovascular Res.* 2000;47:549-555.
- Kirk RI, Deitch JA, Wu JM, Lerea KM. Resveratrol decreases early signaling events in washed platelets but has little effect on platelet in whole blood. *Blood Cells Mol Dis.* 2000;26(2):144-150.
- Martindale W. Martindale the Extra Pharmacopoeia. *Pharmaceutical Press*, 1999.
- Pinto MC, Garcia-Barrado JA, Macias P. Resveratrol is a potent inhibitor of the dioxygenase activity of lipoxygenase. *J Agric Food Chem.* 1999;47(12):4842-4846.
- Soleas GJ, Diamandis EP, Goldberg DM. Resveratrol: a molecule whose time has come? And gone? *Clin Biochem* 1997;30:91-113.
- Wallerath T, Deckert G, Ternes T, et al. Resveratrol, a polyphenolic phytoalexin present in red wine, enhances expression and activity of endothelial nitric oxide synthase. *Circulation.* 2002;106(13):1652-1658.

THE POWDERED EXTRACT -FROM- OPTIPURE™ 800.934.3040
www.optipure.com

