

Resveratrol in a red wine sauce: Fountain of youth or snake-oil?

March 13 2013, by Stephen S. Holden



Resveratrol is being be touted as the latest wonder drug that will add years to our lives. Credit: Greg Bishop

Resveratrol, a molecule found in red wine (and red grape skin and elsewhere) is back in the headlines after an international team of researchers published a [paper in the journal *Science*](#) late last week. The news made headlines around the world.

Researchers believe resveratrol could extend the human life span, and protect people against a wide range of diseases such as cancer, [type II diabetes](#), [Alzheimer's](#), and [heart disease](#).

But is it too good to be true?

Is resveratrol the latest wonder drug that will add years to our lives? Or is this simply the newest science and marketing spiel that will take the rest of our lives to unravel?

And what if resveratrol does not live up to its promise? Who is to blame? The scientists? The media? The marketers? Or the gullible fools who make up the general public?

The health-giving properties of [red wine](#) have been advanced as a possible explanation for the [French Paradox](#), the observation that the French have relatively low heart [disease](#) despite a high-fat diet. [Researchers suggest](#) that the resveratrol in the red wine could be a contributing factor.

The promise of resveratrol has been escalated with [research](#) suggesting that it has the capacity to activate a protein called SIRT1 found in mammals. SIRT1 is one of a larger class of proteins called sirtuins that [have been shown](#) to extend the life span of yeast, worms, flies and, maybe, mice.

Yes, "maybe mice" because whether it extends a mouse's life is [disputed](#). In fact, the truth seems less clear and more highly valued than a couple of cases of 1950s Grange Hermitage.

Despite doubts about the real value of resveratrol, in 2008 GSK paid \$720m for SIRTRIS, a company established by some of the scientists advancing the positive claims for resveratrol.



This may just be the latest attempt at finding the fountain of youth. Credit: Jaci Lopes dos Santos

The paper published recently in *Science* simply reaffirms an earlier claim against [contrary evidence](#). This is science as usual; a scientific shoot-out at the frontier of knowledge in an effort to establish truth.

But some of the claims for resveratrol certainly seem overstated. We are, after all, talking about research that, to this point, has been focused on relatively short-term effects observed on just a few leaves on the phylogenetic tree, in carefully controlled laboratory conditions.

Despite the hype about the connection with red wine, even the researchers admit that the amount of resveratrol in a glass or three of red wine is insignificant relative to the dosing that showed effects in mice. Even so, one of the researchers admits taking resveratrol supplements perhaps to amplify his claims in a style akin to Australian Nobel-laureate Barry Marshall.

So, it may be premature to assume that these findings generalise to humans in the wild.

Add to this the problem of falsification. No, not philosopher of science Karl Popper's notion of falsification as a basis for advancing scientific knowledge, but falsification in terms of made-up data. A number of published studies showing the benefits of resveratrol have been retracted for being fabricated.

All this before the media and marketers get to create a label and write advertising copy to make an appetising and digestible sound-bite (or tittle) for the masses.

The great problem here for seekers of truth is to separate fact from fiction, to separate the infinitely more nuanced reality from vastly simplified human representation.

"Science," said Karl Popper, "may be described as the art of systematic over-simplification." And if scientists are bad, then the media and marketers are probably even worse.

Still, they are all simply selling a story; it appeals because people want to believe it.

The search for the fountain of youth has gone on for millennia. And this search has uncovered just one thing – the spring of human hope flows

endlessly. We are hopelessly hopeful.

Our eternal optimism offers value to medicine through the placebo effect, which suggests that people's beliefs can help their own healing. Sadly, this also means that it can take a long time for people to realise that they have been duped.

And anyway, who is to blame when the whole thing is a product of human nature? Do we blame the public for their unbridled optimism and desire for a quick fix? Or the scientific, media and marketing professions for desiring social and financial success?

The flipside to all this is that some of the claimed benefits of resveratrol are available to the public right now. Sirtuins can be activated by exercising a bit more, and eating a bit less.

But that's not a very interesting story; fiction feeds dreams while the facts foster drudgery.

The amount of [resveratrol](#) in a glass of red wine is unlikely to have any effect on your health, but if it makes you feel better, raise a glass to the placebo effect. And the proof that science, media, marketers and consumers can together create much value from very little.

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