



Most of data suggests the low bioavailability of antioxidants, such as polyphenol molecules, could not explain their apparent health benefits in human by a direct effect on free radicals or reactive oxygen species (ROS) which are the main actors of oxidative stress.

On the other side, it is clearly established that mitochondria are the major producer of free radicals or ROS, and the regulation of mitochondria activity can modulate oxidative stress in human organism. For instance, a regular physical exercise stimulates mitochondria biogenesis and triggers more efficiency of the electron transport chain in mitochondria. This process reduces the production of ROS by mitochondria and therefore it prevents oxidative stress in organism. To the contrary, a low activation of mitochondria, like observed in sedentary persons for example, results in a higher production of ROS with its consequences. That's why we speak about mitochondria as adaptive micro-organisms. To learn more about the mechanisms of mitochondria :

www.targeting-mitochondria.com

According to David E. Stevenson, a scientist of the New Zealand Institute for Plant & Food Research Limited, **polyphenol molecules could reduce oxidative stress by modulating the adaptive activity of mitochondria** ...

“a large body of evidence has now been accumulated to support the concept that polyphenols

are primarily adaptogens rather than radical-scavenging antioxidants. (...) It indicates that the mechanism is far more complex and subtle than previously realised ” as David E. Stevenson explains in his new article : Polyphenols as Adaptogens – The Real Mechanism of the Antioxidant Effect ?

David E. Stevenson conclude by saying :*“Since mitochondrial dysfunction is implicated in aging and major diseases such as cancer, cardiovascular diseases and neuro-degeneration, any means of improving mitochondrial function, or including destruction of the most dysfunctional mitochondria, should be highly beneficial to healthy aging and maintenance of good health. Dietary polyphenols are almost certainly a good means of achieving these ends*
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This very interesting new research pathway will be highlighted in [Paris Polyphenols 2012 World Congress](#)

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To know more about Paris Polyphenols 2012 World Congress : www.polyphenols-site.com

To know more about Targeting Mitochondria 2012 World Congress : www.targeting-mitochondria.com

Source : Polyphenols as Adaptogens – The Real Mechanism of the Antioxidant Effect? By David E. Stevenson
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