Bioavailability of wine-derived phenolic compounds in humans: a review.

Background: According to Strategy 11 of the OIV Strategic Plan 2009–2012, Nutrition and health–individual and societal aspects, one role of the OIV is to collect scientific information in order to promote and provide direction for research on the effects of wine and other vine-product consumption on human health.
Considering that the work of other international organisations, including the World Health Organization (WHO), on the effects of the consumption of alcoholic beverages on human health should be taken into account,
Considering that the OIV emphasises that all information concerning the effects of wine on health must be presented in a competent and balanced manner,
In March 2009, the "Consumption, Nutrition and Health" Expert Group discussed extensively the items for the future work of this Group and decided to establish a working group for developing a discussion paper on the bioavailability of wine-derived phenolic compounds.
The Group further agreed that a discussion paper would be prepared by an electronic working group including Australia, Italy, France and the OIV Secretariat for consideration during the session of the Group in March 2010. The document was duly presented and discussed, and has been submitted and published in Food & Function Journal."

Abstract: Phenolic compounds are produced in the seeds and skins of grapes, and are transferred into wine during the fermentation process. Phenolic compounds can also be imparted into wine from maturation and storage in oak wood barrels after fermentation. The consumption of wine, an alcoholic beverage, has been observed in epidemiological studies to reduce the risk of cardiovascular disease and certain cancers, as well as diabetes and dementia, in a J-shaped relationship between amount consumed and level of risk. The bioactivity of wine primarily observed in vitro and ex vivo, may result from wine's relatively high content of phenolic compounds, which is similar to that observed in fruits and vegetables; a Mediterranean fruit and vegetable rich-diet is also associated with a reduced risk of cardiovascular disease and cancers. If the wine-derived phenolic compounds or their active metabolites are not absorbed in sufficient amounts and in a readily available form for cells, however, then they are less likely to have any significant in vivo activity. This review considers and discusses the available data to date on the bioavailability of the different wine-derived phenolic compounds in humans.

Reference: Bioavailability of wine-derived phenolic compounds in humans: a review. C. Stockley, P. Teissedre, M. Boban, C. Di Lorenzo and P. Restani, Food Funct., 2012, 3, 995 DOI: 10.1039/C2FO10208K