

CLINICAL RESEARCH ABSTRACT

# Inhibition of Fat Absorption with Grape Seed Antioxidants

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The term *French Paradox* has been used to explain the low rate of coronary heart disease in certain parts of France even though they have a diet high in saturated fat and cholesterol. This effect has been attributed to the free radical scavenging activity of proanthocyanidins present in red wine. In fact, red wine and grape seed extracts have potent *in vitro* antioxidant activity. The assumption that these phenols are readily absorbed and that they protect LDL from oxidation has been postulated and widely accepted despite the near complete lack of *in vivo* confirmation. Only one credible study has measured an *in vivo* antioxidant effect, while other similarly designed studies could not confirm this effect.

We studied the effect of an aqueous grape seed extract on fat absorption and lipid peroxidation after consumption of a high fat meal *in vivo* in human volunteers in a crossover experiment. All volunteers had significantly lower levels of plasma triglycerides when the high fat food was consumed with grape seed extract. This was true for both peak absorption levels and total fat absorption. No effect was observed on lipid peroxidation. Grape seed extract also induced a significantly lower level of plasma urate. Vitamin C or E supplementation had no effect on triglyceride levels. This limitation of fat absorption may be another explanation for the beneficial role of grape seed extract on CHD.