

WINE AND HEALTH

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In contrast to other alcoholic beverages, epidemiological and intervention studies suggest that moderate wine consumption protects from a number of chronic diseases, including cardiovascular diseases and cancer. The main factor differentiating wine from other beverages is the presence of a number of micro-constituents, regrouped under the generic term “polyphenols”. This category includes more than 5000 different molecular structures, which have two common denominators: (1) they contain a phenolic scaffold and (2) due to –OH substitutions they are potent antioxidants. This latter property was largely exploited for their tracing in biological fluids, and a huge number of studies focused on it, trying to explain their protective actions, especially in reducing cardiovascular risk. Indeed, wine polyphenols reduce cholesterol oxidation, and in this respect they protect from atherosclerosis. However, antioxidant action can not account for all polyphenol effects. In recent years, a number of additional wine polyphenol actions emerged, including interaction with hormone and xenobiotic receptors, substrate competition for a number of enzymes and interaction with nucleic acids and proteins, leading ultimately to the modification of cell fate towards survival or apoptosis. Study of these actions revealed that wine, through its polyphenolic content, may be a beneficial agent in protecting from atherosclerosis (reducing vascular- related events such as cardiovascular and stroke risk), reducing cancer risk, extending life span (and therefore reducing processes related to ageing), indicating that moderate wine consumption may be a protective agent for a number of chronic diseases, related mainly to our modern life-style.