

Formation of nitric oxide, ethyl nitrite and an oxathiolone derivative of caffeic acid in a mixture of saliva and white wine. [Takahama U](#) , [Tanaka M](#) , [Hirota S](#) . [Free Radic Res.](#) 2010 Mar;44(3):293-303.

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Abstract Reactions of salivary nitrite with components of wine were studied using an acidic mixture of saliva and wine. The formation of nitric oxide (NO) in the stomach after drinking wine was observed. The formation of NO was also observed in the mixture (pH 3.6) of saliva and wine, which was prepared by washing the oral cavity with wine. A part of the NO formation in the stomach and the oral cavity was due to the reduction of salivary nitrite by caffeic and ferulic acids present in wine. Ethyl nitrite produced by the reaction of salivary nitrite and ethyl alcohol in wine also contributed to the formation of NO. In addition to the above reactions, caffeic acid in wine could be transformed to the oxathiolone derivative, which might have pharmacological functions. The results obtained in this study may help in understanding the effects of drinking wine on human health.

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