

Mutagenic substances in red and white wine in Chile, a high risk area for gastric cancer

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Abstract

Chilean home-made and commercial wines were analyzed for the presence of mutagenic substances using the Salmonella mutagenicity test with preincubation. Strains TA98 and TA100 were used in the absence and in the presence of S9 mix. 90% of red wines from a total of 30 samples and 54% of white wines from a total of 22 were found to be mutagenic. In all cases, S9 mix did not affect the mutagenicity of the samples.

At least in one case, more than one mutagen was present, since the mutagenicity with TA98 could be selectively inactivated without affecting that with TA100.

This study supports the hypothesis that wine consumption may be an important risk factor for upper gastrointestinal cancer, particularly for adenocarcinoma of the stomach, which is highly prevalent in Chile.