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The content of biogenic amines in Croatian wines of different geographical origins

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Biogenic amines are nitrogen compounds which are formed by decarboxylation of amino acids. BAs are nitrogen source and precursors for the synthesis of hormones, alkaloids and nucleic acids. Biogenic amines in the human body regulate body temperature and blood pressure. Apart from wines, biogenic amines can be found in other foods and beverages that ferment, eg. cheese, sausages, meat, fish, cabbage, beer and milk. Biogenic amines cause great interest because they can cause a poisoning symptom if they are present in concentrations higher than the permissible. Due to its impact on human health and the quality control, numerous studies have been carried out on the determination of biogenic amines in wine. Research goal was to determine the concentration of biogenic amines in Croatian domestic wines in 48 samples from the region of Zagorje and Dalmatia. 24 samples of native Zagorje red and white wines, 24 domestic Dalmatian red and white wines were used. The samples were passed through the HPLC system. The method was applied to detect and quantify 11 biogenic amines in 48 red and white wines. It was found that both Dalmatian red and white wines are characterized by tryptamine (0.23-1.22 mg L⁻¹), putrescine (0.41-7.5 mg L⁻¹) and ethanolamine (2.87-24.32 mg L⁻¹). White wines from Hrvatsko zagorje region are characterized by content of isopentylamine (0.31-1.47 mg L⁻¹), putrescine (0.27-1.49 mg L⁻¹) and ethanolamine (3.80-17.96 mg L⁻¹). In contrast to white wines from Hrvatsko Zagorje region, in red wines were found and equally presented all biogenic amines except ethylamine. This work showed that biogenic amines content can be differentiation factor for a grape variety and geographical origin for red wines.

Biography

Nikolina Rohtek has completed her MD in Forensic Chemistry and Molecular Biology by Department for Forensic Sciences, University of Split, Croatia and undergraduate study of Marine Biology and Ecology, University of Split. She has worked on her master thesis "The content of Biogenic Amines in Croatian Wines of Different Geographical Origins". Research with same name was published as her first publication in *Molecules*, An Open Access Journal from MDPI. During her studies she also worked as Head and Journalist of Student radio broadcasting and received rector's acknowledgment for excellence in professional practice at HRT as Head and Journalist of Student radio broadcasting "Kroz Bolonju i prašumu", 2015-2017.

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