

QUANTITATIVE DETERMINATION OF BIOACTIVE AMINES IN RED AND WHITE  
WINES BY LC-MS

G. Vinci<sup>1</sup>, I. Iannilli,<sup>2</sup>D. Restuccia,<sup>1</sup> A.M. Tarola<sup>1</sup>

<sup>1</sup>Department for Technologies, Resources and Development - University of Rome "La Sapienza" -  
Via del Castro Laurentian 9, 00161 Rome - Italy

<sup>2</sup>Department Pharmaceutical Sciences - University of Calabria - Via Pietro Bucci, 87036, Arcavacata di  
Rende (CS) - Italy

corresponding author: [annamaria.tarola@uniroma1.it](mailto:annamaria.tarola@uniroma1.it)

Bioactive amines (natural polyamines and biogenic amines) are a product of cellular metabolism of animals, plants and bacteria, so naturally present in food. The presence of bioactive amines in foods is an indicator of microbiological contamination, which is important to establish the existence of risks to human health, because the consumption of foods containing high amounts of amines can cause headaches, nausea and palpitations, especially if they are taken in combination with drugs or alcohol. Samples of red and white wines are acidified and injected directly. In this study a LC-MS system is used to determine the bioactive amines (tryptamine,  $\beta$ -phenylethylamine, putrescine, cadaverine, histamine, serotonin, tyramine, spermidine, spermine). The method show good results of linearity, reproducibility and accuracy in relation to the 9 investigated amines. The results show that putrescine is the most abundant of the amines in red and white wines, followed by histamine and tyramine, the other amines are not found routinely in samples.