

## ISOTOPIC MODEL FOR DETECTING WINE ORIGIN

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Greek wines are characterized unique due to the rare composition of the geographical location of Greece and the high quality local wine varieties. For this reason we have to protect the authenticity and the identity of those Greek wine products. The most suitable method to ensure the authenticity and to validate the traceability of wine and is the stable isotopes. Specifically, the isotopic analysis of  $^{13}\text{C}/^{12}\text{C}$  ratio in the bulk wine and the isotopic analysis of  $^{18}\text{O}/^{16}\text{O}$  ratio in wine's water can trace back the climatic conditions of the area the vine was cultivated and therefore the geographic region of the wine. Furthermore, the isotopic analysis of D/H in wine's ethanol proves whether the ethanol origins are from the vine or not.

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