

# New research sheds light on how aged wine gets its aroma

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Researchers have discovered an enzyme that plays a leading role in the formation of compounds that give aged wines their sought-after aroma.

The enzyme is a member of the cytochrome P450 family of enzymes, which are involved in the formation and breakdown of various molecules and chemicals. By analyzing a large sample of French grapes and white wines through a technique called liquid chromatograph mass spectrometry, the investigators found that, during grape growth, this [enzyme](#) (named CYP76F14) helps to convert a common plant compound, monoterpenol linalool, into a different compound, (E)-8-carboxylinalool. The formation of this compound is an important next step on the road to aroma: as wine ages, (E)-8-carboxylinalool is gradually converted into wine lactone, which gives old wine its nose.

In addition to contributing to our understanding of where wine aroma comes from, this discovery could also impact the grapevine breeding and wine making industries, other fruit research and breeding, as well as aspects of aroma and scent in the beverage and food industries.

"Combining different analytical techniques was key in our work, and this broad picture helped us learn more about how common plant molecules are transformed into specific [wine aroma](#)," said Dr. Nicolas Navrot, senior author of the *New Phytologist* article.

**More information:** Tina Ilc et al, A grapevine cytochrome P450 generates the precursor of wine lactone, a key odorant in wine, *New*

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