

## HISTAMINE

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Histamine is a biogenic amine, a neurotransmitter, which among other things can contribute to allergic reactions in the human body. Histamine intolerance results from disequilibrium of histamine accumulated from nutritional intake and the body's own production with the body's capacity for histamine degradation through enzymes. Histamines are found in foodstuffs such as mature cheeses, sausage and ham, fish or nuts. The histamine content of these foods can range between 1 mg per 100 g to over 50 mg per 100 g.

Research has not yet clarified all questions, but we know that many factors can be responsible for the presence of histamine in wine. Some of these factors stem from natural preconditions, while others can be traced to vinification processes. A significant component appears to be the pH of wine, which is dependent on grape variety and climate. It can generally be said that pH-values and histamine content increase in warmer climate conditions. Cool wine regions like the Wachau are at an advantage.

The grape variety plays an important role because wines with high acidity and low pH have a tendency toward lower histamine content. As an example, while Riesling seldom has a pH over 3.3, many red grape varieties have 3.6 or more. This inherent attribute is accompanied by additional elements during various steps of production. Factors that can possibly increase histamine are oxidative production methods and prolonged maturation in wooden barrels, malolactic fermentation, and longer maceration periods. These are four possible reasons why red wines and skin-fermented white wines have higher pH values and subsequently often higher histamine content.

There is no general regulation of maximum histamine content in wine, but certain countries recommend 2 mg/l to 10 mg/l. These values are usually not exceeded in modern vinification. Healthy grape material, controlled fermentation, and hygienic production processes help keep histamine content low.

Measurement of histamine content in wine is not included in the inspection of Austrian quality wines and a separate analysis is therefore necessary. We allow several exemplary wines - Federspiel and Smaragd, village and single vineyard wines from various grape varieties - to be tested at regular intervals at the Federal Ministry for Viticulture. The Domäne Wachau wines that have been analysed mostly have histamine far below 0.1 mg/l, which is considered to be "undetectable".

The term "low histamine" is forbidden on wine labels in Austria. Only the exact values can be stated to serve consumer security.

Even wines with extremely low histamine content can cause allergic reactions when they are consumed with foods with high histamine content. Alcohol inhibits the ability of enzymes to degrade histamine, allowing it to remain active longer in the body. Alcohol is also among the so-called histamine liberators that in addition to inhibiting breakdown also catalyse the body's own histamine production, even if the alcoholic beverage contains no histamine of its own.

To summarize, our classic Wachau wines have an extremely low histamine content of far below 0.1 mg/l. Histamine has been consistently "undetectable" in all of our analysed wines.

