



Histamine Intolerance Test

RESULT REPORT

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1 Your individual result report

Patient	John Doe	Sample No.	
Date of Birth	01.09.1974	Receipt of Sample	22.03.2018
Weight	196 lb	Posting of Report	26.03.2018

Dear John Doe,

As per your request, we analysed your blood with regard to a possible histamine intolerance. For this purpose, we checked the concentration of the enzyme diamine oxidase (DAO) in your blood. This is an important enzyme for the degradation of histamine.

2 Your test result

We have determined a diamine oxidase (DAO) level of 36,6 U/ml in your serum.

According to the following table, you most likely have a sufficient amount of DAO deficiency and histamine intolerance is unlikely.

Concentration of Diaminooxidase	Rating
< 3 U/ml	probably pronounced histamine intolerance
3 – 10 U/ml	histamine intolerance can be assumed
> 10 U/ml	normal value for DAO

The normal value for the DAO should more than 10 U/ml. If the measured value lies between 3 – 10 U/ml, histamine intolerance can be assumed. If the measured value is below 3 U/ml, it is very probable that there is pronounced histamine intolerance.

3 What can you do in case of histamine intolerance?

If histamine intolerance is assumed or was diagnosed, there are a number of things that can help to attenuate the symptoms or to reactivate the production of the enzyme DAO.

Intestinal Repair

A congenital histamine intolerance is very rare. Therefore, histamine intolerance is often caused by a chronic disorder of the intestinal mucosa and by damages of the cells of the intestinal epithelium. It is possible that the DAO production is not sufficient in those cases.

Furthermore, histamine from food or histamine produced by harmful bacteria in the intestine can enter the body under certain circumstances.

We recommend to perform an intestinal repair by reestablishing the natural gut flora and to repeat this once every year. At best, the acquired histamine intolerance can be reduced or cured by this procedure.

Optimization of the supply with vitamins and micronutrients

DAO needs vitamin B6 for its activity. Histamine release is influenced by vitamin C. It is also important to ensure a sufficient supply of zinc. We recommend optimizing your vitamin supply by taking a vitamin supplement considering the special need for vitamin B6, vitamin C, niacin and zinc.

Avoid histamine-containing foods

Quite a number of foods contain a high level of natural histamine:

Fish: tuna, anchovies, mackerels

Meat: cured and smoked meat, sausages (if microorganisms are used for their production, such as salami, Cervelat sausage, pork/beef sausage)

Cheese: all kinds of hard cheeses (e.g. Emmentaler) and mould cheese

Alcohol: red wine, white wine, beer

Vegetables: sauerkraut, spinach, pickles



Avoid foods that release histamine in the body

Some foodstuffs enhance the release of histamine:

- strawberries, citrus fruits, pineapple, kiwi fruit
- seafood
- milk

Avoid foodstuff that can inhibit DAO

- Certain foods contain biogenic amines that inhibit the activity of the histamine-degrading enzyme DAO

- chocolate
- citrus fruits, pineapple, papaya, raspberries, pear
- bananas
- tomatoes
- legumes
- wheat germs
- cashew nuts, walnuts

Consider the influence of medication

If you take medication that affects the histamine degradation, you should critically reconsider whether you really need to take the medication.

If you take medicine that is listed below, please consult your physician whether it is possible to change to another product. The symptoms deriving from histamine intolerance might already be positively influenced by this measure.

This concerns for example the following medications:

- acetylcysteine, ambroxol, aminophylline, amitriptyline
- chloroquine, isoniazid
- metamizole, metoclopramide, propafenone, verapamil

Allergy sufferers should avoid anti-inflammatory drugs that enhance the release of histamine:

- meclofenamic acid, mefenamic acid, diclofenac
- indomethacin, flurbiprofen, naproxen
- ketoprofen, acetylsalicylic acid

Allergy sufferers should prefer anti-inflammatory drugs that reduce the release of histamine:

- fenbufen
- levamisole
- ibuprofen

If necessary, take histamine DAO

It is not always possible to avoid the intake of histamine-containing food. In these cases, it is possible to take DAO from animal-origin in order to support the degradation of histamine in the intestine. The only available product is DAOsin which contains DAO from pigs. Users report that the effect decreases if the drug is frequently taken. We therefore recommend taking the drug only in special situations.

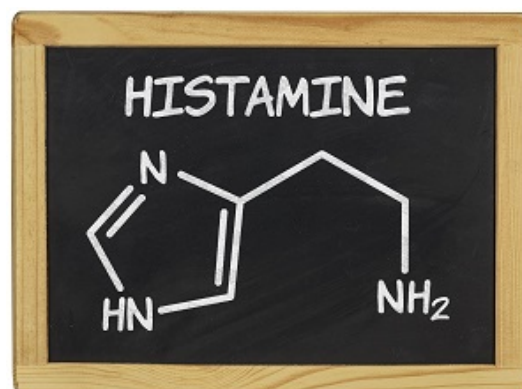
Binding and excretion of histamine in the intestine

Histamine that is ingested with foods, can also be bound to mineral ion exchangers and is then directly excreted.

4 General information on histamine

4.1 Histamine and histamine degradation

In the body, histamine is used as a messenger substance to influence important processes during defensive reactions of the immune system, the regulation of the gastric juices, the motility of the stomach and intestine, the heart frequency and tone of the blood vessels, the regulations of the sleep-wake cycle and the body temperature.



Histamine is always secreted at the site of action, thereby causing a local effect. In order to keep the reaction under control, histamine has to be degraded very quickly. This process is mediated by the enzyme DAO.

4.2 Typical symptoms of histamine intolerance

Typical symptoms of histamine intolerance are: nasal congestion, running nose, tongue problems, gastrointestinal complaints, diarrhoea or loose stools, nausea, cramps, asthma, migraine, low blood pressure, accelerated or irregular pulse, edemas, eye swelling, aching limbs, skin reactions. Histamine intolerance can encourage allergic reactions by probably lowering the individual sensitivity threshold or by intensifying the irritation caused by the allergen compared to the normal reaction.

Please note: Histamine is also the messenger substance that triggers labour in pregnant women. A disorder of DAO activity can also cause stronger menstrual pains and apparent infertility. In case of need, please discuss this with your physician.

4.3 What causes histamine intolerance?

In general, histamine intolerance is caused by an imbalance of histamine synthesis and histamine degradation.

In rare cases, histamine intolerance is congenital. The main reason for histamine intolerance is a malfunction of the histamine degradation process which is most often caused by a reduced DAO activity.

Very often, the underlying cause for this malfunction is a chronic strain on the intestine which can lead to inflammation and changes of the intestinal mucosa and hereby to a reduced enzyme synthesis. Once the intestinal epithelium is damaged, DAO might no longer be synthesized in sufficient amounts.

It is also possible that a vitamin deficiency, particularly vitamin B6, is the reason why the DAO is no longer working adequately. Furthermore, a number of medicines as well as the availability of vitamin C and zinc may influence the histamine release or its degradation.

4.4 Do you have histamine intolerance?

The following symptoms might be caused by histamine intolerance:

- frequent headaches or migraine
- intolerance of red wine
- intolerance of hard cheese, sausages, tomatoes, ketchup, chocolate
- gastrointestinal complaints, especially diarrhoea or loose stools
- low blood pressure
- sensation of warmth, hot flushes
- heart problems (accelerated or irregular pulse)
- strong menstrual disorders on the first day (women)
- eczemas, skin welts, rosacea (skin)

4.5 What causes high histamine levels?

When histamine is released in your body (which is a natural process) or when high concentrations of histamine are released after contact with an allergen, an enhanced reaction occurs as a result of a decelerated degradation of histamine.

Many foods contain histamine which is normally degraded directly in the intestine. However, if the intestinal mucosa is damaged and DAO is not synthesized in an adequate amount, histamine derived from food can enter the body and can trigger the reactions described above. In the beginning, these chronic inflammation areas are very small and are very often not recognized during a colonoscopy. In addition, certain foods do not contain histamine, but can cause an increased release of histamine.

Histamine is also a degradation product of the metabolism of certain bacteria which live in the intestine in case this organ is off balanced due to an unbalanced diet or other stressors.

A number of medicines can influence the activity of histamine degradation or histamine release.

5 Reference list

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