

Histamine ELISA kit

Cat. N. CI004

Histamine ELISA kit

Histamine is an endogenous amine coming from the histidine aminoacid decarboxylation. It is a chemical mediator in a lot of biological processes and it is released after physical, chemical and immunological demands. Some food has high histamine content: the consumption of fresh or canned fish as tuna, mackerel, sardines, anchovy, etc., could cause serious poisoning. Histamine concentration, in those ichthyic species, is the result of degradation processes by micro-organisms on the fish skin. In the muscle tissue these micro-organisms transform post-mortem the free histidine in histamine. Therefore high histamine level is considered an early indicator of decomposition.

The UE Commission Regulation N. 2073/2005 establishes that nine samples of each batch must be analyzed. The batch is compliant with the regulation if the histamine level is under 100 ppm or just one sample is in between 100 - 200 ppm. If only one sample is above 200 ppm the batch is non compliant. In case of products which have undergone enzyme maturation treatment in brine, the limits shift to 200 and 400 ppm.

Assay principle

Competitive enzyme immunoassay.

Applications

Fish and wine.

Standard curve range

3.7 - 300 µg/l.

Detection limits

- Fish: 1.85 ppm.
- Wine: 0.02 ppm.

Measuring range

Depending on the expected histamine concentration. Following some examples:

Fish

- 1.85 - 150 ppm (dil. 1: 500).
- 185 - 15000 ppm (dil. 1: 50000).

Wine

- 0.02 - 1.5 ppm (dil. 1: 5).
- 0.74 - 60 ppm (dil. 1: 200).

Other ranges described in the instructions.

Specificity (% of cross-reactivity)

N- acylated histamine	100
N- methyl histamine	2.42
N- acetyl histamine	0.61
1- methyl histamine	0.03
L- histidine	<0.005

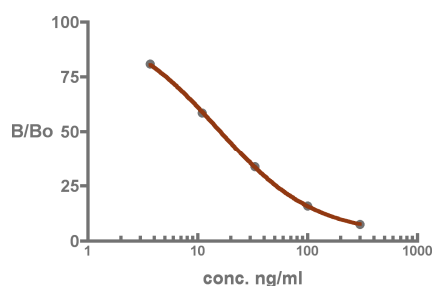
Sample preparation

- Fish: homogenization, extraction with trichloroacetic acid, dilution with hydrogen chloride, acylation.
- Wine: dilution with hydrogen chloride, acylation.

Assay time

2 h and 15 min. (sample preparation not included).

Example of calibration curve



Advantages

- Excellent correlation with HPLC method.
- Applicable to all foodstuff.
- Wide measuring range.
- Screening up to 94 samples/kit in case of qualitative analysis.
- Free spreadsheet downloadable at www.tecnalab.com to calculate sample concentration.

Storage conditions

+2/+8° C.

Shelf life

12 months from date of manufacturing.

(rev. 05/04/07)

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Kit contents

- Microtiter 96 well plate, 12 strips with 8 breakable wells.
- Histamine standard solutions, ready to use.
- Control 100 ppm for qualitative analysis, concentrated.
- Control 200 ppm for qualitative analysis, concentrated.
- Anti-histamine antibody, ready to use.
- Enzyme conjugate, concentrated.
- Assay buffer, concentrated.
- Acylation reagent, ready to use.
- Indicator buffer, ready to use.
- Chromogen, concentrated.
- Citrate buffer, ready to use.
- Stop solution, ready to use.
- Adhesive foil, 3 pieces.
- Instructions.

Additional equipment

- Vortex mixer.
- Homogenizer (fish).
- Filter paper.
- Disposable glass tubes (12 x 75 mm).
- Low speed shaker (500 rpm).
- Micropipette 2-20, 20-200 and 200-1000 µl/l., with suitable tips.
- Multichannel micropipette 20-200 µl., with suitable tips (optional).
- Microtiter plate or strip reader equipped with 450 nm filter.

Supplier

Tecna Srl, ISO9001 / UNI EN ISO 9001 - Ed. 2000 certified (SGS, N° . IT01/0291)

Material not provided

- Bidistilled water.
- Trichloroacetic acid, 10% solution (fish).
- Hydrogen chloride 0.1 M.