

Histamine Check Swab Instruction Manual

Product code:60448



CAUTION !

1. Do not attempt to drink the kit reagent, touch it with bare hands or allow it to splash into eyes.
2. Please make sure to read the precautions and instructions in this Instruction Manual before attempting to use the kit and exercise extreme caution when using it.

[Applications]

The Histamine Check Swab is to be used to assay histamine contained in food samples by means of a colorimetric reaction. Assay results can be checked by the changes in reagent color. Comparing changes in color with the color chart will provide a rough understanding of histamine content.

This product simplifies the process of identifying histamine concentration in assay samples but it is neither intended as a precise quantification of histamine or an official analytical method.

This product may not determine accurate histamine content due to false positive reaction depending on the sample. False positive means the changing color of the reagent despite the absence of histamine in the sample. Please verify whether your sample can be assayed by this product by comparing other histamine assay method.

[Measurement Principles]

The assay method of this product incorporates enzymes that act specifically on histamine. In the presence of tetrazolium salt and electron acceptors, histamine dehydrogenase acts on tetrazolium salt to produce formazan dye (purple).

As formazan dye concentration varies depending on histamine concentration, a rough understanding of histamine concentration in samples can be obtained by making a comparison with the color chart.

[Product Features]

This product comprises a swab, extraction reagent, and colorimetric reagent designed to determine histamine content. With this assay kit, there is no need for any other equipment such as a spectrophotometer to visually check histamine content in samples.

[Product Specifications]

1. Specificity: This assay method is not affected by other amines contained in specimens, such as cadaverine or putrescine. However, coloration may occur even in the absence of histamine depending on assay samples and pretreatments (hereinafter "false positive").
2. Quantitative range: 20 - 80 ppm (In diluted sample)
3. Testing time: Reagent reaction time of about 5 minutes.

[Contents]

Two aluminum bags of 20 Histamine Check Swab are included (40 swabs in total).

Histamine content can be determined by means of the assembly of a swab, extraction reagent, and colorimetric reagent .

Table 1: Main components of each reagent

Reagent name	Main component
Colorimetric reagent	Tetrazolium salt Electron acceptor Histamine dehydrogenase
Extraction reagent	Sodium tetraborate

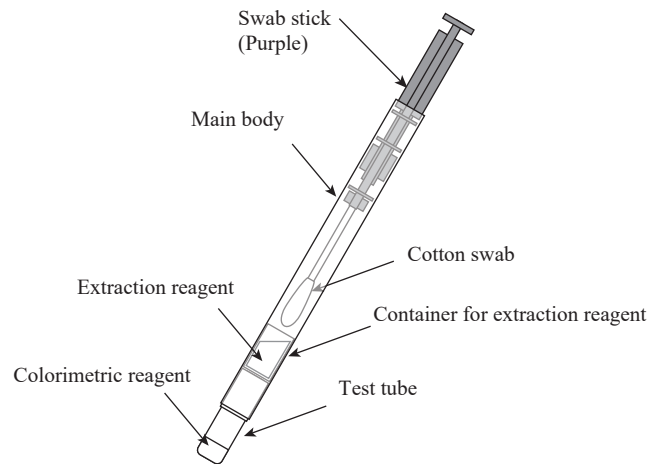


Fig. 1: The name of each part of the Histamine Check Swab

[Precautions for Use]

Please make sure to follow the precautions listed below in order to obtain optimal performance from this kit.

- ① Do not use this product after the expiration date. Otherwise, assay results may be inaccurate. (The expiration date is printed on the bottom part of the aluminum bag.)
- ② Bring this product to room temperature (18 - 30°C) prior to use. Otherwise, assay results may be inaccurate.
- ③ Use the product as quickly as possible after opening the aluminum bag. When you need to keep the product after opening for later use, close the aluminum bag, store it at a low temperature (2 - 8°C), and use it within two weeks. Otherwise, the product may deteriorate.
- ④ Ensure that the product does not fall and is not subject to any external impact, which may damage the internal aluminum sealing and impair product performance.
- ⑤ Do not use this product if the internal aluminum sealing is damaged. You can check for damage to the aluminum sealing based on the presence/absence of extraction reagent leakage.
- ⑥ Do not displace the assay tube, which may cause reagent leakage and prevent accurate analysis.
- ⑦ False positives and inaccurate results in histamine assay may occur depending on the assay sample and pretreatment. Please verify whether your sample can be assayed by this product by comparing other histamine assay method.

[Assay Method:]

1. Assay procedures

Take the product out of the refrigerator and bring it up to room temperature (18 - 30°C). After being brought up to room temperature, the product should be used as quickly as possible.

- ① Dilute an assay sample by two to five times. Solid form assay samples should be minced. False positives may be prevented by heating the diluted sample.
- ② Pull out the swab stick from the main body.

- ③ Soak the swab in the diluted sample. If the assay sample is a solid form, do not allow any solid object to stick to the swab.
- ④ Return the swab stick to the main body, and push it through all the way into the main body.
- ⑤ Hold the main body and shake it. The leftover colorimetric reagent will fully dissolve.
- ⑥ After five minutes, check the coloration of the reaction solution. A rough understanding of the histamine concentration can be obtained by making a comparison of the color with the color chart.

Example assay case: Fish sauce

- ① Dilute the fish sauce with water by five times.
- ② Full out the swab stick from the main body.
- ③ Soak the swab in the diluted sample.
- ④ Return the swab stick to the main body, and push it through all the way into the main body.
- ⑤ Hold the main body and shake it. The leftover colorimetric reagent will fully dissolve.
- ⑥ After five minutes, check the coloration of the reaction solution. A rough understanding of the histamine concentration can be obtained by making a comparison of the color with the color chart.

2. Identification of histamine content in an assay sample

Histamine content in an assay sample can be calculated by the following formula:

$$\text{Histamine content in an assay sample (ppm)} \\ = \text{Histamine content identified in comparison with the color chart (ppm)} \times \text{Dilution factor}^*$$

* "5" if sample is diluted by five times

3. About false positives

The following types of assay sample, in particular, are prone to false positives. Please note false positives may occur with other sample types. You can verify if the false positive would occur for a particular type of sample with this product by assaying the same type of sample which was confirmed the absence of histamine by other histamine assay method, such as Histamine test (code 61341).

- Canned food (especially tuna)
- Fresh fish/meat (especially mackerel)
- Dark fish sauce
- Soy sauce and processed food seasoned with soy sauce
- Wine
- Cheese

[Disposal Methods]

This kit contains no hazardous materials. This kit can be disposed of as regular garbage, but when disposing of it, it would be better to separate the parts and dispose of each one properly in accordance with the local regulations outlined by the local governments for proper disposal of waste materials.

The main materials and parts used in this kit are listed below. No PVC materials are used in the making of the plastics in this kit.

Table 2: Main raw materials of the structural parts of this product

Structural parts	Raw materials
Swab stick (Purple)	Polypropylene
Main body (casing)	Polypropylene
Swab shaft	Polypropylene
Container for extraction reagent	Polypropylene, Aluminum
Measurement tube	Polypropylene, Aluminum
Aluminum bag (with dehumidifying function)	Aluminum, Polyethylene, Polyethylene terephthalate
Outer bag	Polyethylene

[Precautions for Handling]

- ① The reagents contained in this kit must not be ingested, touched with bare hands, or come into contact with your eyes either before or after use. If ingested, gargle with plenty of water. If your skin or eye is exposed to the reagents, rinse with a lot of water and seek medical advice.
- ② For storage and disposal, please exercise due care so that this product and the reagents are not mixed in with foods, etc.
- ③ When pressing the sampling stick to the main body, be careful not to trap your fingers.
- ④ Please store this product out of the reach of young children.







[Storage]

Store the kit at 2 - 8°C in a refrigerator. Do not freeze the kit. Once an aluminum bag has been opened, it is recommended that all 20 swabs are used up at once. When the swabs must be stored after opening for later use, store them at a low temperature (2 - 8°C) and use them within two weeks.

The expiration date is printed on the aluminum bags.

[Warranty]

Kikkoman Biochemifa Company warrants the products in this kit to have a certain level of quality. This warranty guarantees that Kikkoman Biochemifa Company shall replace defective products should any be found. This warranty does not provide any other guarantees. Kikkoman Biochemifa Company shall not be liable for any damages, including special or consequential damages, or expenses arising directly or indirectly from the use of this product.

Symbols Used in the Packaging and Labeling of this product	
	Symbol for "temperature limitation." The upper and lower temperature limits will be indicated on either side of the symbol. Please store this product at the indicated temperature range.
	Symbol for "Caution" or "Attention" for use.
	Symbol for "Lot Number." This symbol shall be adjacent to the manufacturer's lot number (e.g. 20190501A) or description of its printed location.
	Symbol for "Use By." This symbol shall be adjacent to the expiration date, expressed as YYYYMMDD (e.g. 20201201), or description of its printed location.
	Symbol for "Consult Instructions Manual."
	Symbol for "Manufacturer." This symbol shall be adjacent to the name and address of the manufacturer.

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