

Histamine Microplate Assay Kit

Cat #: orb759223 (manual)

Detection and Quantification of Histamine Content in Tissue extracts and Other biological fluids Samples.

For research use only. Not for diagnostic or therapeutic procedures.

INTRODUCTION

Histamine is a biogenic amine naturally present in many foods and body cells in amounts without toxicological significance. It is also a contaminant that mostly found in the Scombridae family fishes such as tuna and mackerel or other seafood products when improperly handled or stored. The consumption of foods containing high level of histamine may lead to an allergy-like food poisoning known as scombroid poisoning.

Histamine Microplate Assay Kit is a sensitive assay for determining Histamine content in various samples. The intensity of product color, measured at 480 nm is directly proportional to histamine concentration in the sample.

KIT COMPONENTS

Component	Volume	Storage
96-Well Microplate	1 plate	
Assay Buffer	30 ml x 4	4 °C
Reaction Buffer	9 ml x 1	4 °C
Dye Reagent A	Powder x 1	4 °C
Dye Reagent B	Powder x 1	4 °C
Dye Reagent B Diluent	1 ml x 1	4 °C
Standard	Powder x 1	4 °C
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Note:

Dye Reagent A: add 8 ml Distilled water to dissolve before use.

Dye Reagent B: add 1 ml Dye Reagent B Diluent to dissolve before use.

Dye Reagent Working Solution: add all Dye Reagent B into Dye Reagent A, mix.

Standard: add 1 ml Assay Buffer to dissolve before use; then add 200 µl into 800 µl Assay Buffer, the concentration will be 2 mmol/L.

MATERIALS REQUIRED BUT NOT PROVIDED

1. Microplate reader to read absorbance at 480 nm
2. Distilled water
3. Pipettor, multi-channel pipettor
4. Pipette tips
5. Mortar
6. Centrifuge
7. Timer

SAMPLE PREPARATION

1. For tissue samples

Weigh out 0.1 g tissue, homogenize with 1 ml Assay buffer on ice; incubate at 60 °C water bath for 30 minutes; centrifuged at 8000g 4 °C for 10 minutes, take the supernatant into a new centrifuge tube for detection.

3. For liquid samples

Detect directly, or dilute with Assay Buffer.

ASSAY PROCEDURE

Warm all reagents to room temperature before use.

Add following reagents into the microplate:

Reagent	Sample	Standard	Blank
Reaction Buffer	90 μ l	90 μ l	90 μ l
Sample	20 μ l	--	--
Standard	--	20 μ l	--
Distilled water	--	--	20 μ l
Mix.			
Dye Reagent Working Solution	90 μ l	90 μ l	90 μ l
Mix, incubate at room temperature for 10 minutes, measured at 480 nm and record the absorbance.			

Note:

- 1) Perform 2-fold serial dilutions of the top standards to make the standard curve.
- 2) The concentrations can vary over a wide range depending on the different samples. For unknown samples, we recommend doing a pilot experiment & testing several doses to ensure the readings are within the standard curve range.

CALCULATION

1. According to the volume of sample

$$\begin{aligned}\text{Histamine } (\mu\text{mol/ml}) &= (C_{\text{Standard}} \times V_{\text{Sample}}) \times (\text{OD}_{\text{Sample}} - \text{OD}_{\text{Blank}}) / (\text{OD}_{\text{Standard}} - \text{OD}_{\text{Blank}}) / V_{\text{Standard}} \\ &= 2 \times (\text{OD}_{\text{Sample}} - \text{OD}_{\text{Blank}}) / (\text{OD}_{\text{Standard}} - \text{OD}_{\text{Blank}})\end{aligned}$$

2. According to the weight of sample

$$\begin{aligned}\text{Histamine } (\mu\text{mol/g}) &= (C_{\text{Standard}} \times V_{\text{Sample}}) \times (\text{OD}_{\text{Sample}} - \text{OD}_{\text{Blank}}) / (\text{OD}_{\text{Standard}} - \text{OD}_{\text{Blank}}) / (W \times V_{\text{Sample}} / \\ &\quad V_{\text{Assay}}) \\ &= 2 \times (\text{OD}_{\text{Sample}} - \text{OD}_{\text{Blank}}) / (\text{OD}_{\text{Standard}} - \text{OD}_{\text{Blank}}) / W\end{aligned}$$

C_{Protein} : the protein concentration, mg/ml;

C_{Standard} : the standard concentration, 2 mmol/L = 2 $\mu\text{mol/ml}$;

W: the weight of sample, g;

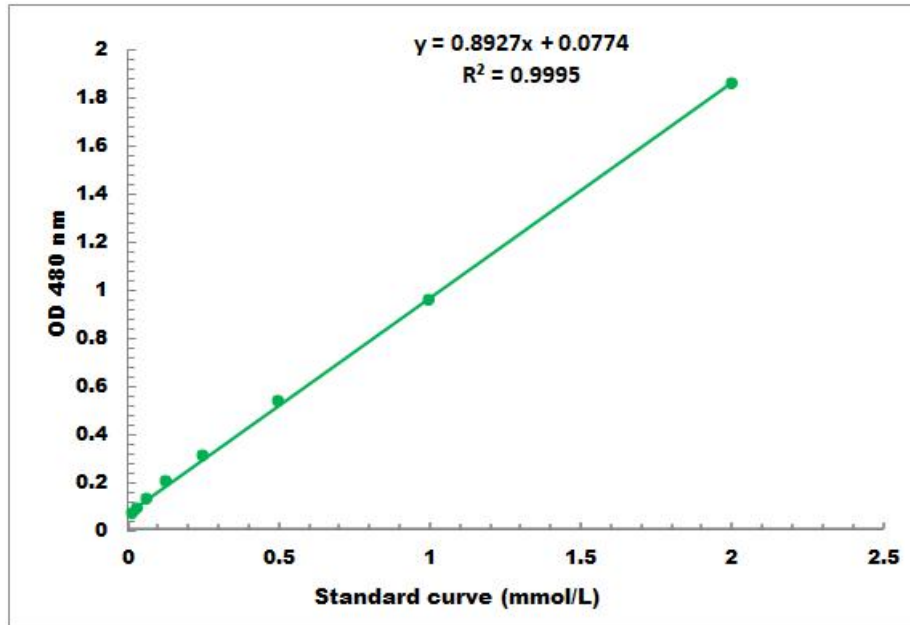
V_{Sample} : the volume of sample, 0.02 ml;

V_{Standard} : the volume of standard, 0.02 ml;

V_{Assay} : the volume of Assay buffer, 1 ml.

TYPICAL DATA

The standard curve is for demonstration only. A standard curve must be run with each assay.



Detection Range: 0.02 mmol/L - 2 mmol/L