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L-Cysteine (L-Cys) Assay Kit

Catalog No.: BC00042

Size: 50T/100T

If you have any questions or need further help during experiment, please don't hesitate to contact us through the following methods:

✉Email（Sale） order@enkilife.com

✉Email（Techsupport） techsupport@enkilife.com

Tel: 0086-27-87002838

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Shelf life: Please refer to the label on the outer package.

Techsupport: In order to provide you with better service, please inform us the lot number on the label of the outer package.

Basic Information

Product Name	L-Cysteine (L-Cys) Assay Kit
Detection Methods	Colorimetric
Sample type	Serum, plasma, animal tissue , cells
Detection Type	Quantitative
Detection instrument and wavelength	Microplate reader (405 nm)

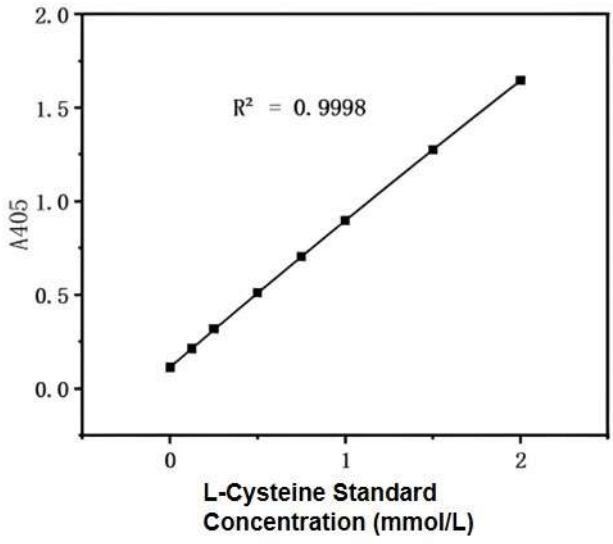
Product Introduction

L-cysteine is mainly distributed in the liver, spleen, and kidneys. It also accumulates in large quantities on the surface of the human body, including the skin, mucous membranes, and the surface of the digestive organs. It can strengthen the body's own defense capabilities and adjust the body's defense mechanisms when foreign matter, including those ingested orally, inhaled from the atmosphere, or invaded by contact with the skin, invades.

Detection Principle

Cysteine reduces phosphotungstic acid DTNB to generate TNB, which has an absorption peak at 405 nm. The content of cysteine can be calculated by measuring the absorbance value at 405 nm.

The following standard curve is for reference only:



Product Composition

Serial Number	Product Name	Packing Specifications (50T)	Packing Specifications (100T)	Storage
Reagent 1	DTNB	0.8mL	1.5mL	store at 2-8℃ after opening
Reagent 2	Acid reagent	8mL	15 mL	store at 2-8℃ after opening
Reagent 3	Buffer	8 mL	16 mL	store at 2-8℃ after opening
Reagent 4	Standard (10mmol/L)	0.8 mL	1.5 mL	store at 2-8℃ after opening
Consumables 1	96-well ELISA plate	1 plate	1 plate	RT
Consumables 2	96-well membrane	2 pieces	2 pieces	RT

Storage conditions

The unopened kit can be stored at -20℃ for 12 months. After opening, it can be stored at 4℃ for 3 months.

Preparation before the experiment

Sample processing

1. Serum sample: Take 0.05 mL of serum sample, add 0.45 mL of reagent 1, mix thoroughly, centrifuge at 4°C, 10000×g for 10 min, and take the supernatant for later use.
2. Dilution of serum samples: Generally, serum samples do not need to be diluted. Before the formal test of special samples, 2-3 samples with large expected differences can be selected and diluted into different concentrations for preliminary experiments. According to the results of the preliminary experiments, combined with the linear range of this kit: 0.07-2.0mmol/L, dilution is performed. The sample diluent is reagent 2.
3. Tissue samples: Take 0.1 g of animal tissue sample, add 0.9 mL of reagent 2, perform mechanical homogenization, centrifuge at 4°C , 10000×g , for 10 min , and take the supernatant for later use.
4. Cell samples: Add $10^6$0.2 mL of reagent 2 per cell , perform mechanical homogenization, fully disrupt the cells (no obvious cell precipitation, can be observed under a microscope) , centrifuge at 10,000 × g for 10 min at 4°C , take the supernatant and place it on ice for testing.

· Preparation of the kit

1. Take out all reagents and return to room temperature before use.
2. Dilution of standards of different concentrations. The standard solution was first diluted to 2

mmol/L with double distilled water , and then diluted to different concentrations such as 2 , 1 , 0.5 , 0.25 , 0.125 , and 0 (blank well) mmol / L with double distilled water according to the half-dilution method.

3. Working solution configuration: Reagent 1: Reagent 2 is 6.6:150

Operation Process

	Standard pipe (well)	Measuring tube (well)
Standard solutions of different	20	--
Sample (μL)	--	20
Working solution (μL)	150	150
The cells were incubated at 37°C for 30 min and the OD value was measured at 405 nm using a microplate reader.		

Result Calculation

Standard fitting curve: y = ax + b

The calculation formula of cysteine Cys content in liquid sample is:

Cys content = (ΔA405 - b) ÷ a × 10* × f

The formula for calculating the Cys content in tissues is:

Cys content = (ΔA405 - b) ÷ a × f ÷ m/V1

The calculation formula of Cys content in cell samples is:

Cys content = (ΔA405 - b) ÷ a × f ÷ n*/ V2

Annotation:

y: Standard OD value - blank OD value (OD value when the standard concentration is 0)

x: concentration corresponding to the absorbance

a: Slope of the standard curve

b: standard curve intercept

ΔA405: Sample OD value - blank OD value

*: Liquid sample supernatant was diluted 10 times during preparation

f: dilution factor of the sample before adding it to the detection system

m: fresh weight of tissue (g), it is recommended that m be 0.1 g

n: When the number of cells added is 5× 10^6, n=5

V1: Volume of reagent 1 added during tissue processing (mL), 0.9 mL is recommended

V2: Volume of reagent 1 added during cell treatment (mL). It is recommended to take 0.3 mL per

cell.10^6

Notes

1. The kit is for research use only. If it is used for clinical diagnosis or any other purpose, our company will not be responsible for any problems arising therefrom and will not bear any legal liability.
2. Please read the instructions carefully and adjust the instrument before the experiment, and conduct the experiment strictly in accordance with the instructions.
3. Please wear lab coats and latex gloves for protection during the experiment.
4. The detection range of the kit is not equivalent to the concentration range of the analyte in the sample. If the concentration of the analyte in the sample is too high or too low, please dilute or concentrate the sample appropriately.
5. If the sample being tested is not among the sample types listed in the instructions, it is recommended to conduct a preliminary experiment to verify the effectiveness of the test.
6. The final experimental results are closely related to the effectiveness of the reagents, the relevant operations of the experimenter, the experimental environment and other factors. Our company is only responsible for the kit itself, not for the sample consumption caused by the use of the kit. Please fully consider the possible usage of the sample before use and reserve sufficient samples.