(FOR RESEARCH USE ONLY. DO NOT USE IT IN CLINICAL DIAGNOSIS!)

# Glucose Oxidase (GOD) Activity Assay Kit

Catalog No.: BC00063

Size: 100T

Please read the instructions carefully before use. 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

Website: www.enkilife.com


**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** | Glucose Oxidase (GOD) Activity Assay Kit |
| **Detection Method** | Colorimetric |
| **Sample Type** | Serum, plasma, urine, tissues, cells |
| **Assay Type** | Enzyme activity |
| **Detection Instrument** | Microplate reader (550 nm) |

## Product Introduction

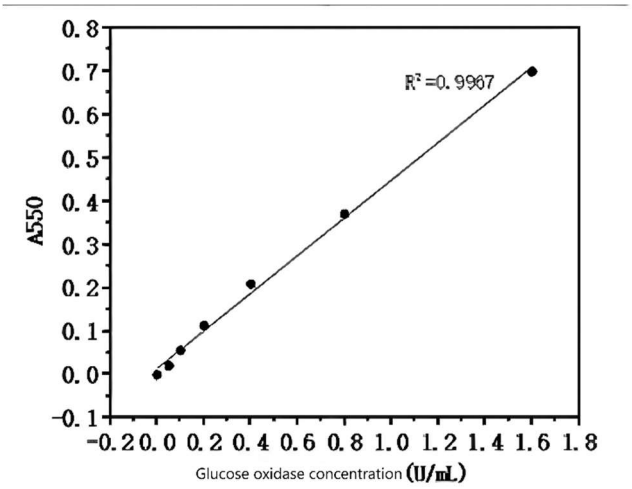
Glucose oxidase is an important industrial enzyme in the food industry. It is widely used in deoxygenation of foods such as wine, beer, juice, and milk powder, flour improvement, and prevention of food browning. It is also widely used in rapid food detection and biosensors. Microorganisms grow and reproduce quickly and have a wide range of sources. They are the main source of GOD production. The main production strains are Aspergillus niger and Penicillium.

## Product Features

• This kit uses glucose oxidase as the standard instead of unstable hydrogen peroxide, which makes the kit have higher accuracy and better stability.

## Principle

Glucose generates hydrogen peroxide under the action of glucose oxidase, and hydrogen peroxide causes the chromogen to develop color under the action of peroxidase. The activity of GOD is determined by the absorbance at 550nm.
When this kit is used to detect samples, the total protein concentration needs to be determined. The BCA method (Cat. No.: BC00006) is recommended. The figure below shows the standard curve determined by this kit.
The following standard curve is for reference only:




## Components

| No. | Components | Size (100T) | Storage |
|---|---|---|---|
| Reagent 1 | Buffer | 30ml × 1 vial | -20℃ |
| Reagent 2 | Enzyme Reagent | Powder × 1 vial | -20℃ |
| Reagent 3 | Color Developer | 1ml x 2 vials | -20℃ |
| Reagent 4 | Standard | 1ml x 1 vial | -20℃ |
| Consumable 1 | Microplate | 1 plate | RT |
| Consumable 2 | Plate Sealer | 2 pieces | RT |

## Storage

The unopened kit can be stored at -20°C for 6 months.

## Preparation

- **Sample handling**

1. The homogenate medium is physiological saline (0.9% NaCl), centrifuge to take the supernatant for testing, and retain some supernatant for protein concentration determination.
2. Sample dilution: Before formal testing, select 2-3 samples with expected large differences and dilute them to different concentrations for a preliminary experiment.

Based on the results of the preliminary experiment and the linear range of this kit (0.05–1.6 U/L), determine whether the samples need to be diluted.

- **Preparation of the kit**

1. Take out all reagents and return them to room temperature before use. For reagents with small volumes, centrifuge them before use to avoid insufficient amounts of reagents.
2. Preparation of Reagent 2 working solution: Before use, add 1mL of double-distilled water to each vial of Reagent 2 to dissolve, prepare fresh and use immediately, and store the unused part at -20°C in the dark. Dissolve and mix well, place on ice.
3. Preparation of reaction working solution: Prepare the reaction working solution in a volume ratio of Reagent 1 to Reagent 2 working solution of 49:1, prepare fresh and use immediately, prepare as needed, and keep the prepared working solution on ice.
4. Dilution of different standard concentrations: Dilute the Reagent 4 with an activity of 5U/mL to a concentration of 1.6U/mL with double-distilled water and further dilute to get standard concentrations of 1.6, 0.8, 0.4, 0.2, 0.1, 0.05, 0 (blank well) U/mL and keep on ice for standby.

## Operation process

1. Standard wells: Take 10 μL of different concentrations of standards and add to the corresponding standard wells.
2. Measurement wells: Take 10 μL of samples to be tested and add to the corresponding measurement wells.
3. Add 200 μL of reaction working solution to each well from step (1).
4. Add 20 μL of Reagent 3 to each well from step (2).
5. Shake slightly, measure the OD values A1 of each well at 550 nm with a plate reader. Incubate at 37°C for 20 minutes.
6. Incubate at 37°C for 20 minutes. Measure the OD values A2 of each well at 550 nm with a plate reader.
7. Calculate the change in sample OD value △A.

Note: If the glucose oxidase activity in the sample is low, the incubation time can be extended to 30 minutes.

The operation table is as follows:

| | Standard well | Measurement well |
|---|---|---|
| Different concentrations of standard solutions (μL) | 10 | -- |
| Sample to be tested (μL) | -- | 10 |
| Reaction working solution (μL) | 200 | 200 |
| Reagent 3 (μL) | 20 | 20 |
| Shake slightly, measure the OD values A1 of each well at 550 nm with a plate reader. Incubate at 37°C for 20 minutes, measure the OD values A2 of each well at 550 nm with a plate reader.<br>Calculate the sample change OD value △A = A2 - A1. | | |

## Calculation

Standard fitting curve: y = ax + b

Calculation formula: GOD activity (U/mL) = (ΔA550 - b) ÷ a × f

**Annotation:**

y: △A

x: concentration corresponding to the absorbance

a: slope of the curve

b: intercept of the curve

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

## Notes

1. Please read the instructions carefully and adjust the instrument before the experiment, and conduct the experiment strictly in accordance with the instructions.
2. Please wear lab coats and latex gloves for protection during the experiment.
3. 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.
4. 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.

5. 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.
6. This product is intended for scientific research use only by professionals and must not be used for clinical diagnosis or treatment, in food or drugs, or stored in ordinary residences.