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Xanthine Oxidase (XOD) Activity Assay Kit

Catalog No.：BC00020

Size：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

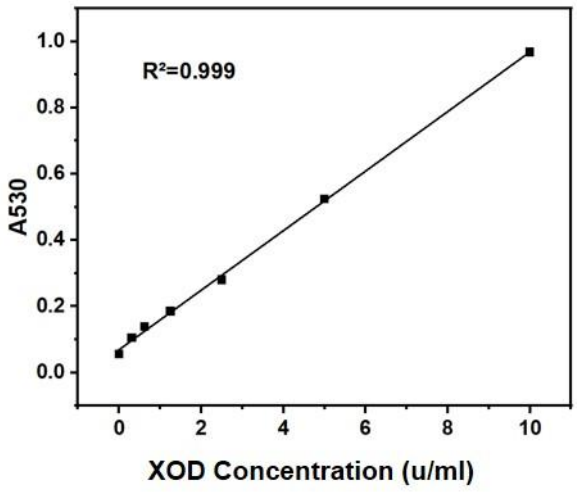
Product Name	Xanthine Oxidase (XOD) Activity Assay Kit
Detection Methods	Colorimetric
Sample type	Serum, plasma, tissue
Detection Type	Enzyme activity
Detection instrument and wavelength	Microplate reader (530 nm)
Range	0.3125-10U/mL
Sensitivity	0.095U/mL

Product Introduction

Xanthine Oxidase (XOD) is mainly found in the milk, liver and spleen of mammals. It belongs to the aerobic dehydrogenase class and is an important enzyme in nucleic acid metabolism in the body. When liver cells are damaged, this enzyme is released into the serum earlier than SGPT and increases significantly. It has obvious measurement significance for distinguishing hepatocellular jaundice from obstructive jaundice. In the process of hypoxia, xanthine dehydrogenase quickly forms xanthine oxidase, which plays an important role in the generation of free radicals.

Detection Principle

XOD can catalyze hypoxanthine to generate xanthine, and at the same time produce superoxide anion free radicals. When there are electron acceptors and color developers, purple-red complexes are generated. The activity of XOD can be calculated based on the amount of the latter generated.



Product Composition

Serial Number	Product Name	Packaging specifications (100T)	Storage
Reagent 1	Buffer	2 1ml	-20℃, store at 4℃ after
Reagent 2	Substrate solution	3 ml	-20℃
Reagent 3	Color developer	3 ml	Store at -20℃, away from
Reagent 4	15U/ml standard	1.5ml	-20℃
Consumables 1	96-well ELISA plate	1 plate	RT
Consumables 2	96-well membrane	2 pieces	RT

Storage

The unopened test kit can be stored at -20℃ for 12 months, and the reagent is valid for 6 months after opening the bottle.

Preparation before the experiment

Sample processing

1. Homogenization of tissue samples: The tissue samples were homogenized with physiological saline (0.9% NaCl), centrifuged, and the supernatant was collected for testing. A portion of the supernatant was retained for protein concentration determination.
2. Serum (plasma) samples: direct detection.
   Note: The diluent is normal saline (0.9% NaCl) or PBS (0.01 M, pH 7.4).

· Preparation of the kit

1. Before testing, the reagents in the kit are equilibrated to room temperature. Double distilled water, physiological saline (0.9% NaCl) or PBS (0.01 M, pH 7.4) are required.
2. Dilution of standards of different concentrations: Dilute the standard solution with water according to the half-dilution method to different concentrations such as 10, 5, 2.5, 1.25, 0.625, 0.3125, and 0 (blank well) U/ml.
3. Preparation of color developer working solution: prepare buffer solution: substrate solution: color developer in a volume ratio of 7:1:1, keep it away from light and use it immediately after preparation.

Operation process

1. Standard wells: Take 20 μL of standard solution of different concentrations and add it to the

corresponding standard wells. Sample wells: Take 20 μL of sample and add it to the corresponding sample wells.

2. Add 180 μL of the colorimetric working solution to the standard wells and sample wells in step (1).
3. Incubate at 37°C for 10 min and measure the OD value of each well at 530 nm.

Project	Standard well	Determination well
Standard solutions of different concentrations (μL)	20	--
Sample to be tested (μL)	--	20
Color developer working solution (μL)	1 80	1 80
Incubate at 37°C for 10 min and measure the OD value of each well at 530 nm.		

Result calculation

Standard fitting curve: y = ax + b

1. xanthine oxidase (**XOD**) activity in serum (plasma) is:

$$XOD\ activity = (\Delta A_{550} - b) \div a \div T \times f \times 1000\ (U/L)$$

2. The calculation formula of xanthine oxidase (XOD) activity in tissue samples is:

$$XOD\ activity = (\Delta A_{550} - b) \div a \div T \times f \div C_{pr} \times 1000\ (U/gprot)$$

annotation:

y: OD value of standard sample minus OD value of blank sample
x: concentration of the standard
a: slope of the curve
b: intercept of the curve
ΔA630: Change in OD value of the sample
T : reaction time
f: dilution factor of the sample before adding it to the detection system
Cpr: protein concentration of the sample to be tested (gprot/L)

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. 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.

3. This product is limited to scientific research by professionals and must not be used for clinical diagnosis or treatment, used as food or medicine, or stored in ordinary residences.