

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

Carbonyl Assay Kit

Catalog No.: BC00208

Size: 50T

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	Carbonyl Assay Kit
Detection Method	Colorimetric
Sample Type	Serum, plasma, tissues
Assay Type	Quantitative
Detection Instrument	Ultraviolet spectrophotometer (370 nm)

Product Introduction

A carbonyl group is an organic functional group consisting of a carbon atom double-bonded to an oxygen atom (C=O). It serves as a structural component of functional groups such as aldehydes, ketones, carboxylic acids and carboxylic acid derivatives. The determination of carbonyl compound content by spectrophotometry provides valuable support for physiological and biochemical research.

Principle

Carbonyl groups react with 2,4-dinitrophenylhydrazine to form reddish-brown hydrazones, which have a characteristic absorption peak at 370 nm. The carbonyl content can be calculated by colorimetric determination of absorbance.

Components

No.	Components	Size	Note
Reagent 1	Working solution	15 mL	Store at 4°C.
Reagent 2	1 mg/mL standard	15 mL	Store at 4°C.

Storage

The kit can be stored for 6 months under specified conditions.

Preparation

UV spectrophotometer (with 370 nm wavelength), 0.5 cm path length quartz cuvettes, 37 °C water bath or incubator, table-top low-speed centrifuge, pipettes of various specifications, double distilled water, vortex mixer, test tubes or centrifuge tubes.

Operation process

	Blank well	Standard well	Assay well
Double distilled water (μL)	875	750	750
Standard (μL)		125	
Supernatant (μL)			125
Reagent 1 (μL)	125	125	125
Mix well and let stand for 5 minutes. Zero the instrument with distilled water, then measure the absorbance (A) of each tube at 370 nm using a cuvette with 0.5 cm optical path length.			

Calculation

$$\text{Carbonyl content (mg/mL)} = \frac{A_{\text{Assay}} - A_{\text{Blank}}}{A_{\text{Standard}} - A_{\text{Blank}}} \times C_{\text{Standard}} \times N$$

Annotation:

C_{Standard} : Standard solution concentration, 1 mg/mL

N: Dilution multiple of samples before determination

Precautions

1. It is recommended to use disposable laboratory test tubes for operation.

2. 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.