

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

Glycated Serum Protein (GSP) Content Assay Kit

Catalog No.: BC00159

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	Glycated Serum Protein (GSP) Content Assay Kit
Detection Method	Colorimetric
Sample Type	Tissues
Assay Type	Quantitative
Detection Instrument	Microplate reader (optimal detection wavelength 530 nm)

Product Introduction

Glycated serum protein (GSP) is an adduct formed by the non-enzymatic glycosylation reaction of glucose in the blood with serum proteins (mainly albumin).

Principle

Serum glucose can undergo non-enzymatic glycation with the N-terminal amino groups of albumin and other serum protein molecules to form a high-molecular-weight ketamine structure. This ketamine structure can undergo a reduction reaction with nitrotrazole blue (NBT) in an alkaline environment to produce formazan, and a colorimetric reaction can be performed using fructosamine DMF as a standard reference.

Components

Components	Name	Size	Storage
Reagent 1	2 mmol/L DMF standard solution	0.2 mL × 1 bottle	-20°C or below
Reagent 2	Bovine serum albumin	0.2 mL × 1 bottle	-20°C or below
Reagent 3	NBT colorimetric reagent	30 mL × 1 bottle	2~8°C, away from light
Reagent 4	stabilizer	1.5 mL × 1 bottle	RT
	If it solidifies, heat it in a 37°C water bath until it becomes transparent before use.		

Consumables 1	Microplate (96 wells)	1 plate	RT
Consumables 2	Plate Sealer	2 pieces	RT

Storage

The kit has a shelf life of 3 months.

Operation process

1. The microplate reader should be turned on and preheated 30 minutes in advance.
2. Reagent 3 should be preheated in a water bath at 37°C for 5 minutes.
3. Operating steps:

Reagents(μL)	Blank tube	Standard blank tube	Standard tube	Test tube
Double-distilled water	10	--	--	--
2 mmol/L DMF standard solution	--	--	10	--
Bovine serum albumin	--	10	--	--
Serum (plasma)	--	--	--	10
NBT colorimetric reagent (preheated to 37°C)	200	200	200	200
Gently shake the well plate to mix, and react at 37°C for 15 minutes.				
Stabilizer	10	10	10	10
Gently shake the plate to mix, measure the wavelength at 530 nm, and read the value using the microplate reader.				

Result calculation

$$\text{GSP content (mmol/L)} = \frac{\text{Test OD value} - \text{Blank OD value}}{\text{Standard OD value} - \text{Stand Blank OD value}} \times \frac{\text{Standard concentration}}{(2 \text{ mmol/L})}$$

Annotation

$$1 \text{ mmol/L} = 1 \text{ mmol/L} \times \text{molecular weight (249)} \div 1000 = 0.249 \text{ g/L}$$

Precautions

1. When using the plate, avoid adding air bubbles, as this may affect the microplate reader readings and the measurement results.
2. Hemolysis and high lipid levels in the sample can cause the test results to be too high.
3. This product is for research purposes only and must not be used for clinical diagnosis. Do not take it.