EnkiLife
Life is now and future

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

Magnesium (Mg) Assay Kit

Catalog No.: BC00070

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

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	Magnesium (Mg) Assay Kit
Detection Methods	Colorimetric
Sample type	Serum, plasma
Detection Type	Quantitative
Detection instrument and wavelength	Microplate reader (520 nm-540 nm, the best detection wavelength is 520 nm)
Range	0.15625-2.5mmol/L
Sensitivity	0.15625mmol/L

Product Introduction

Magnesium is an activator of many enzymes, such as phosphatases and creatine kinase, and is an important component of DNA, RNA, and ribosomes. It is essential for maintaining normal nerve and muscle function, and abnormal serum magnesium concentrations are associated with certain kidney and endocrine diseases.

Features

★ Reduced interference from biological samples: Serum and plasma samples can be directly tested without pretreatment.

Detection Principle

Magnesium in serum reacts with the complex indicator Calmagite to form a Calmagite-Mg complex. The absorbance of this complex at 520 nm is proportional to the magnesium concentration in the sample.

Product Composition

Serial Number	Product Name	Packing Specifications	Storage
Reagent 1	Alkaline reagent	1 7 mL	Store at -20℃ away from light , store at
Reagent 2	Color developer	17 mL	Store at -20℃ away from light , store at
Reagent 3	5 mmol/L Magnesium	1 mL	-20℃ , store at 2-8 ℃ after opening
	96-well ELISA plate	1 plate	RT

	96-well membrane	2 pieces	RT

Storage Conditions

The unopened kit can be stored at -20°C for 6 months. After opening, store at 4°C.

Preparation before the experiment

Sample processing

(1) Serum and plasma samples: can be measured directly.

(2) Sample dilution: Before the formal test, 2-3 samples with large expected differences need to be selected and diluted to different concentrations for preliminary experiments.

Note: The diluent is physiological saline (0.9% NaCl) or PBS (0.01 M, pH 7.4).

· Preparation of the kit

(1) Before testing, the reagents in the kit should be equilibrated to room temperature.

(2) Dilution of standards of different concentrations: dilute the standards with water in half to different concentrations such as 2.5, 1.25, 0.625, 0.3125, 0 (blank well) mmol/L

(3) Preparation of working solution: Mix reagent 1 and reagent 2 in a volume ratio of 1:1. After mixing, let stand for 10 minutes to prepare the working solution. Use immediately after preparation and store at 2-8℃ away from light for 3 days.

(4) Before the experiment, place the prepared working solution in a 37°C incubator and incubate for 5 min.

Operation process

(1) Standard wells: Take 2.5 μL of standard solution of different concentrations and add it to the corresponding standard wells. Assay wells: Take 2.5 μL of sample and add it to the corresponding sample wells.

(2) Add 250 μL of working solution to the standard wells and assay wells in step (1).

(3) Oscillate on a microplate reader for 5 s and measure the OD value of each well at 520 nm.

Operation table

	Standard well	Determination well
Standard solutions of different	2.5	--
Sample to be tested (μL)	--	2.5
Working solution (μL)	250	250

Oscillate on the microplate reader for 5 s and measure the OD value of each well at 520 nm.

Result Calculation

Standard fitting curve: y = ax + b

For normal serum (plasma) samples, the magnesium concentration is calculated as follows:

Magnesium content (mmol/L) = (ΔA520 - b) ÷ a × f

annotation:

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

x: concentration corresponding to the absorbance

a: slope of the curve

b: intercept of the curve

ΔA520: Sample OD value - blank OD value (OD value when the standard concentration is 0)

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

Notes

1. The optimal detection wavelength of the microplate reader is 520 nm, and detection can be performed in the range of 520 nm-540 nm.
2. This product is limited to scientific research by professionals and shall not be used for clinical diagnosis or treatment, shall not be used as food or medicine, and shall not be stored in ordinary residences.