

Product Data Sheet

K2068 Magnesium Colorimetric Assay Kit

Kit Contents

Components	K2068-250 250 assays	Part Number
Standard (10mg/dL Mg)	1 x 1 mL	K2068-C-1
EDTA (0.1 M)	2 x 1.5 mL	K2068-C-2
Reagent B	1 x 25 mL	K2068-C-3
Reagent A	1 x 25 mL	K2068-C-4

Introduction

Magnesium is the 11th most abundant element in the human body. Mg^{2+} is essential for all living cells where it is involved in facilitating the processing of biological polyphosphates like DNA, RNA, ATP and enzyme functions. Mg^{2+} is the metallic ion at the center of chlorophyll. Mg^{2+} can be used as antacids and laxatives, and used to stabilize blood vessel spasm such as eclampsia and abnormal nerve excitation.

The Magnesium Colorimetric Assay Kit provides a simple and sensitive way for detection of magnesium concentration in various biological samples based on colorimetric method and the specific requirement of glycerol kinase for Mg^{2+} . The enzyme linked reaction generates an intensely colored ($\lambda_{max} = 450nm$) product whose formation is proportional to Mg^{2+} concentration. The colored product can be easily qualified using a microtiter plate reader or a spectrophotometer at 450 nm. The linear range is 2 - 15 nmoles with detection sensitivity ~ 40 μM .

Key facts

Detection method

Colorimetric

Sample types

Food samples, Urine, Milk, Serum

Assay type

Quantitative

Range

41 - 1200 μM

Assay Platform

Microplate

Storage

Shipped at conditions

Ambient - Can Ship with Ice

Appropriate short-term storage conditions

+4°C

Appropriate long-term storage conditions

+4°C

Storage information

+4°C

Notes

Magnesium Assay Kit is a simple, direct and automation-ready procedures for measuring magnesium concentration in biological samples. This assay kit is designed to measure magnesium directly in biological samples without any pretreatment. A calmagite dye in the kit forms a colored complex specifically with magnesium. The intensity of the color, measured at 500 nm, is directly proportional to the magnesium concentration in the sample. The optimized formulation minimizes interference by potential substances.

Sensitive and accurate Use as little as 5 μL sample. Linear detection range 0.1 mg/dL (41 μM) to 3 mg/dL (1.2 mM) Mg^{2+} in 96-well plate assay.

Simple and high-throughput: The procedure involves addition of two reagents and measuring OD500nm. Can be readily automated as a highthroughput assay for thousands of samples per day.

Improved reagent stability and versatility: The optimized formulation has greatly enhanced reagent and signal stability. Cuvette or 96-well plate assay.

Low interference in biological samples: Assays can be directly performed in serum and urine samples.

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most APEx BIO products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Short term storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.

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