



QuantiChrom™ Magnesium Assay Kit

Magnesium (Mg) is one of the most abundant and essential minerals in mammals. Magnesium is involved in more than 300 biochemical reactions in the body and plays important roles in muscle and nerve functions, heart rhythm, immune system and bone formation. Magnesium deficiency may lead to nausea, fatigue, muscle contractions, hypocalcemia and hypokalemia.

Simple, direct and automation-ready procedures for measuring magnesium concentration in biological samples are becoming popular in Research and Drug Discovery. BioAssay Systems' magnesium 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.

APPLICATIONS:

Direct Assays: Mg²⁺ in serum, urine and deproteinated samples (e.g. milk) etc.

Drug Discovery/Pharmacology: effects of drugs on Mg²⁺ metabolism.

Food and Beverages: Mg²⁺ determination.

Environment: Mg²⁺ determination in water and soil.

KEY FEATURES:

Sensitive and accurate. Use as little as 5 µL sample. Linear detection range 0.1 mg/dL (41µM) to 3 mg/dL (1.2 mM) Mg²⁺ in 96-well plate assay.

Simple and high-throughput. The procedure involves addition of two reagents and measuring OD_{500nm}. Can be readily automated as a high-throughput assay for thousands of samples per day.

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

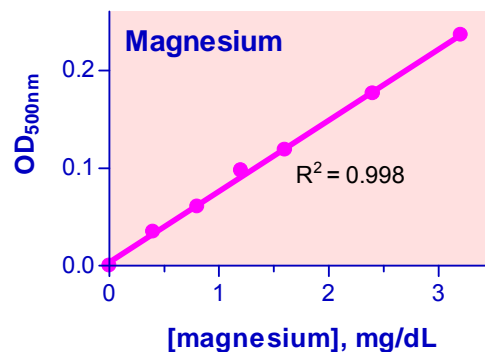
Low interference in biological samples. Assays can be directly performed in serum and urine samples.

PRODUCT INFORMATION:

QuantiChrom™ Magnesium Assay Kit DIMG-250

Each kit is sufficient for 250 assays in 96-well plate. Kit includes:

- 1 x 25 mL Reagent A
- 1 x 25 mL Reagent B
- 2 x 1.5 mL EDTA Solution
- 1 x 1 mL 10 mg/dL Mg²⁺ Standard



Standard Curve in 96-well plate assay

REFERENCES:

[1]. Whang R (1987). Routine serum magnesium determination--a continuing unrecognized need. Magnesium 6:1-4.

[2]. Liedtke RJ, Kroon G. (1984) Automated calmagite compleximetric measurement of magnesium in serum, with sequential addition of EDTA to eliminate endogenous interference. Clin Chem. 30:1801-4.

[3]. Savory J, Margrey KS, Shipe JR Jr, Savory MG, Margrey MH, Mifflin TE, Wills MR, Boyd JC (1985). Stabilization of the calmagite reagent for automated measurement of magnesium in serum and urine. Clin Chem. 31:487-488.