

# MAGNESIUM CALMAGITE

## Colorimetric determination of magnesium in biological liquids

### TEST SUMMARY

Magnesium reacts with Calmagite forming a pink complex.

### SAMPLES

Serum.  
Diluted Urine 1:5 with Distilled water.  
Stability: 7 days at 4°C.

### REAGENTS

Reagent A	Amino-metil-prophanol 1 M; EGTA 0.8 mM; stabilizers and conservatives.
Reagent B	Calmagite 0.4 mM; surfactants, stabilizers and preservatives.
Standard	Ion Magnesium 2 mEq/l; stabilizers and preservatives.

### MATERIAL REQUIRED BUT NOT SUPPLIED

Normal laboratory equipment. Spectrophotometer UV/VIS with thermostatisation. Automatic Micropipette. Cuvette in optical glass or monouse in optical polystyrene. Physiologic solution.

### PRECAUTIONS

Reagent may contain not reactive and conservative components. It is opportune to avoid contacts with the skin and do not swallow.  
Perform the test according to the general "Good Laboratory Practice" (GLP) guidelines.

### REAGENTS PREPARATION

Mix a part of Reagent A with a part of Reagent B. Reagents are stable until expiration date on label stored at 15-25°C.  
Work Reagent is stable 30 days at 15-25°C.

### PROCEDURE

Kind of analysis:	End Point
Reading Time:	2 minutes
Wavelength:	520 nm(500-550)
Temperature:	R.T.
Lightpath:	1 cm
Zero:	Blank Reagent
Colour stability:	120 minutes

### EXPECTED VALUES

Serum: 1.3 - 2.1 mEq/l (0.65 - 1.05 mM)

Urine: 6.0 - 8.5 mEq/24h

Every laboratory should establish own reference intervals in accordance with own population..

### NOTE

- If the results are incompatible with clinical presentation, they have to be evaluated within a total clinical study.
- Only for IVD use.

### CALIBRATION/QUALITY CONTROL

It is suggested to perform an internal quality control. For this purpose the following control sera on human base are available on request:

**QN 0050 CH** 10 x 5 ml

Control Sera normal values

**QP 0050 CH** 10 x 5 ml

Control Sera pathological values

### TEST PERFORMANCE

#### Precision

Intra-assay (n = 20)	Mean (mEq/l)	SD (mEq/l)	CV%
Sample 1	1.605	0.039	2.46
Sample 2	2.100	0.032	1.54

Inter-assay (n = 20)	Mean (mEq/l)	SD (mEq/l)	CV%
Sample 1	1.605	0.039	2.46
Sample 2	2.090	0.039	1.18

#### Linearity

The method is linear up to 5 mEq/l (2.5 mM).

#### Methods comparison

A comparison with a commercial available product gave the following results in a comparison on 50 samples:

Magnesium LTA = x

Magnesium competitor = y

n = 50

$y = 0,91847x + 0,15$   $r = 0,9594$

#### WASTE DISPOSAL

Product is intended for professional laboratories. Waste products must be handled as per relevant security cards and local regulations.

#### PACKAGING

**CODE CC02070 (600 TESTS)**

Reagent A	3 x 100 ml	(liquid)
Reagent B	3 x 100 ml	(liquid)
Standard	1 x 5 ml	(liquid)









#### REFERENCES

Maxwell H. e Coll. - Clin. Chem. 28/3; 520 (1982).  
Henry J.B. - Clinical Diagnosis and Management - 17<sup>th</sup> edition - Saunders Publisher (1984).  
Savory J. e coll. - Clin Chem 31/3, 487 - 488 (1985).

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### SYMBOLS

	Only for IVD use
	Lot of manufacturing
	Code number
	Storage temperature interval
	Expiration date
	Warning, read enclosed documents
	Read the directions
	Biological risk

Mod. 01.06 (ver. 4.2 - 04/03/2006)



Reagents	Blank	Standard	Sample
Distilled water	10 µl	--	--
Standard	--	10 µl	--
Sample	--	--	10 µl
Work Reagent	1000 µl	1000 µl	1000 µl

### CALCULATION

#### SERUM Magnesium (mEq/l)

$(A \text{ sample} / A \text{ standard}) \times 2$

#### SERUM Magnesium (mM)

$(A \text{ sample} / A \text{ standard}) \times 1$

#### URINE Magnesium (mEq/24h)

$(A \text{ sample} / A \text{ standard}) \times 2 \times 5 \times l \text{ of urine}$