MAGNESIUM (BR-160/ BR-120) Colorimetric – Xylidyl Blue Method

IVD

PRODUCT CODE
CE002

INTENDED USE
For the quantitative determination of Magnesium in serum or plasma.

CLINICAL SIGNIFICANCE
Magnesium is the second most abundant intracellular cation of the human body after potassium, being essential in a great number of enzymatic and metabolic processes. It is a co-factor of all the enzymatic reactions that involve ATP and found in the membranes that maintain the electrical excitability of muscular and nervous cells. A low magnesium level is found in malabsorption syndrome, diuretics aminoglucoside therapy, and hyperparathyroidism or diabetic acidosis. Elevated concentration of magnesium is found in uremia, chronic renal failure, glomerulo nephritis, Addison's disease or intensive anti acid therapy.

PRINCIPLE
Magnesium ions form a colored complex with Xylidyl blue in the presence of Alkali. The increase in absorbance is proportional to the magnesium concentration in the sample.

REAGENT COMPOSITION

MAGNESIUM REAGENT	0.2 mol/l
Tris buffer (pH11.0)	70 mmol/l
Potassium Carbonate GETDA	40 mmol/l
Xylidyl Blue	0.1 mmol/l
Sodium Azide	0.1%

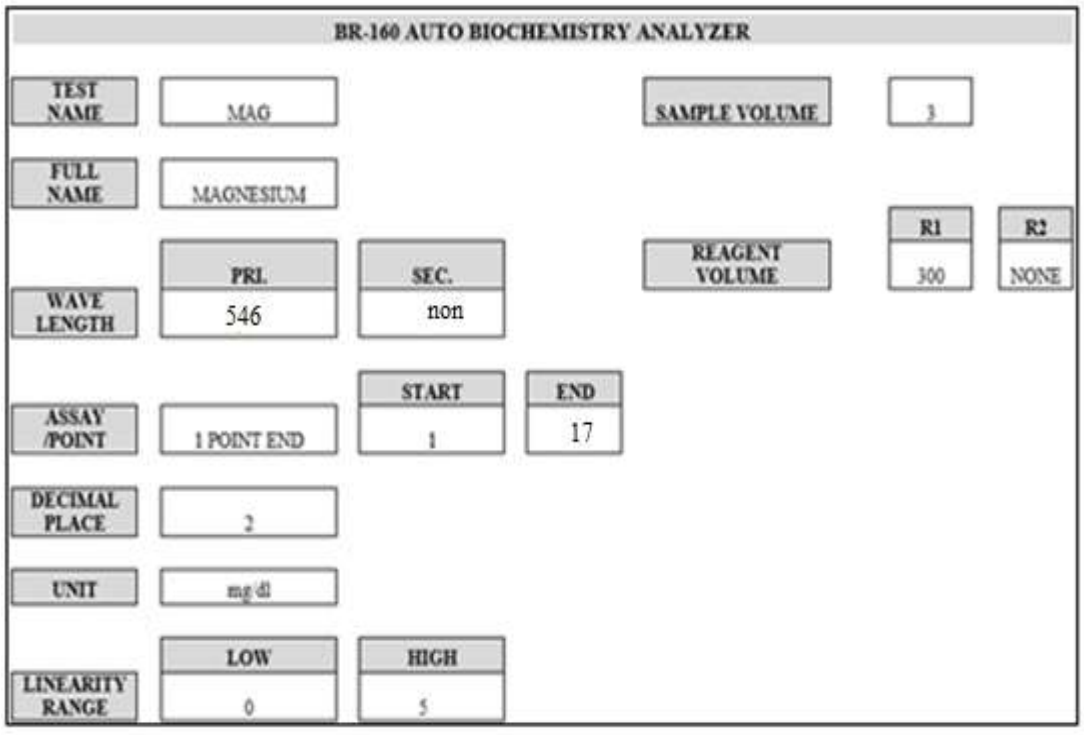
REAGENT PREPARATION The reagent is ready to use.

STORAGE AND STABILITY
The reagent, stable up to the stated expiry date when stored at 15-25° C.

SPECIMEN
Serum, plasma and urine, do not use EDTA. Magnesium is stable for 7 days at 15 - 25° C.
Acidify urine of pH 3-4 by adding concentrated HCl. Dilute further 1+4 with distilled water and multiply by the result by 5.

PRECAUTION
To avoid contamination, use clean laboratory wares. It is recommended to use disposable tubes. Use clean, dry disposable pipette tips for dispending. Close reagent, bottles immediately after Use. Avoid direct exposure of reagent to light.

APPLICATION ON AUTO BIOCHEMISTRY ANALYZERS



MAGNESIUM (BR-160/ BR-120)

Blue Method Colorimetric – Xylidyl

IVD

BR-120 AUTO BIOCHEMISTRY ANALYZER						
TEST NAME	MAG			SAMPLE VOLUME	3	
FULL NAME	MAGNESIUM					
					R1	R2
	PRI.	SEC.		REAGENT VOLUME	300	NONE
WAVE LENGTH	505	630				
		START	END			
ASSAY /POINT	1 POINT END	6	21			
DECIMAL PLACE	2					
UNIT	mg/dl					
	LOW	HIGH				
LINEARITY RANGE	0	5				

Linearity

The test is linear up to a magnesium concentration of 5mg/dl or 2.05 mmol/L. Dilute sample with a higher concentration 1+1 with distilled water and multiply the result by 2.

NORMAL RANGE

Serum, plasma	1.9-2.5 mg/dL	0.8-1.0 mmol/L
Urine	1-10 mg/dL	0.4-4.1 mmol/L
24-hour urine	50-150 mg/dL 24 hr	2.0-6.2 mmol/L 24 hr

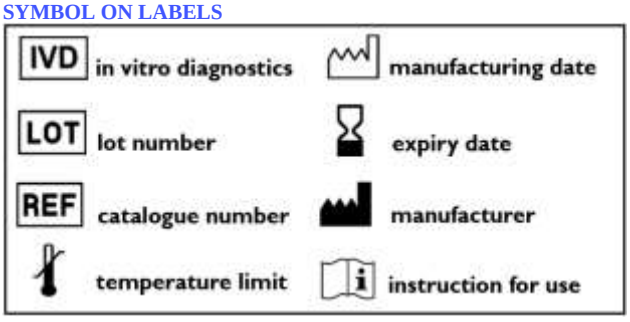
QUALITY CONTROL

All control sera with Magnesium values determined by this method can be used.

NOTES

1- Do not use haemolytic sera due to the higher magnesium concentration in erythrocytes.
2- The test is not influenced by lipaemic sera or bilirubin concentration up to 20 mg/dl.
3- Contaminated glassware is the greatest source of error. Disposable plasticware is recommended for the test.
4- The reagents contain sodium azide (0.1%) as preservative. Do not swallow. Avoid contact with skin and mucous membrane.

SYMBOL ON LABELS



BIBILOGRAPHY

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