



JOURI LABS

# Calcium-MTB

Liquid Stable Reagent

Colorimetric method by using MTB

Store at Room temperature

## Principle

In alkaline medium, and in presence of Methyl thymol blue,  $\text{Ca}^{+2}$  forms a color complex. The Hydroxy-8-quinolin protects against the interference of Magnesium ions.

## Reference values

Serum	New born	7.5 –14	mg/dl
		1.87 -3.5	mmol/l
	Adult	8.5 -10.5	mg/dl
		2.12 -2.62	mmol/l
Urine	-	100 – 400	mg/24h
		2.5 - 10	mmol/l

## Samples

Serum, heparin plasma. Urine adjust to pH 3-4 with HCl and dilute 1/2 with distilled water.

## Reagents

**R<sub>1</sub>** :

Methylthymol blue	178	mol/l
8-Hydroxy quinoline	12.4	mmol/l

**R<sub>2</sub>** :

TEA buffer	3.6	mmol/L
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**R<sub>3</sub>** :

Standard	10.0	mg/dl
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## Preparation of working reagent

Mix 1 volume of R<sub>1</sub> with 1 volume of R<sub>2</sub>.

Stable for 1 days at 2-8°C.

## Procedure

Wavelength	612 nm (600-620)
Temperature	Room temperature
Cuvette	1 cm light path
Method	Endpoint - Increasing

	Blank	Standard	Sample
Standard	-	10L	-
Sample	-	-	10L
Working reagent	1ml	1ml	1ml

Mix well, incubate 3 minutes, read the optical density against Blank. The color is stable for 1 hour at least.

### Calculation

$$\text{Ca (mg/dl)} = \frac{\text{O.D Sample}}{\text{O.D Standard}} \times \text{Standard concentration}$$

mg/dl Calcium X 0.25 = mmol/l Calcium

### Linearity

Up to 15 mg/dl.

### NOTES

- Calcium in sample is stable for 10 days at 2-8°C.
- Anticoagulants other than heparin as EDTA must be avoided.
- Use acid washed glassware or plastic tubes.

### PRESENTATION

4 X 60 ml	Cat No 1001	240 Tests
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### Bibliography

Robertson G and al. Clin Acta, 20. 315 (1968).  
Gindler E and Al. Am. J. Clin. Path. 58. 376 (1972).  
Elveback L R J. Am. Med. Ass, 69. 211 (1968)

The following symbols are used on labels

IVD	For in vitro diagnostic use
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Use day (last day of the month)

Temperature limitation

LOT	Batch code
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REF	Code
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