



SODIUM fluid

MAGNESIUM-URANYLACETATE METHOD

2 x 100 ml

88 99 37

PRINCIPLE

Precipitation of sodium by magnesium-uranylacetate. The supernatant of uranyliions in solution are forming with thioglycolacid a yellow-brown colour complex. The difference between reagent blank (without precipitation of sodium) and analysis result is proportional to the sodium concentration.

REAGENTS

R1: Uranylacetate	19 mmol/l
Magnesiumacetate	140 mmol/l
R2: Ammoniumthioglycolate	550 mmol/l
Ammonia	550 mmol/l
R3: Sodium standard	150 mmol/l

The sealed reagents are stable up to the indicated expiry date if stored at +2° - +8°C.

REFERENCE VALUE

Serum 135 - 150 mmol/l (135 - 150 mval/l)

SAMPLE MATERIAL

Serum

QUALITY CONTROL

All control sera with values determined by this method can be used. We recommend to use **AXIOM** control sera.

PREPARATION AND STABILITY

The reagents are ready-to-use.

Stored at 4° - 8° C the reagents will be stable until the expiration date stated on the label. Reagent **R1** is sensitive to light. Protect from direct sunlight. After opening, contamination is to be avoided.

NOTE

1. Detergents contain high concentrations of sodium. Therefore rinse glasses, cuvettes, stoppers, pipettes with aqua dest. Avoid contamination with sodium (sweat)
2. Use once-use plastic articles. To close reagent glasses use Parafilm or plastic stoppers. In the presence of sodium concentration higher than 300 mmol/l dilute serum 1 to 1 with aqua dest. Multiply final result by 2.

ASSAY PROCEDURE

Wavelength: Hg 365nm or Hg 405nm
Temperature: 25°C or 37°C

Pipette into centrifuge tubes:

macro

	Reagent bl.	Standard	Sample
H₂O bidest.	50µl	--	--
Standard	--	50µl	--
Serum	--	--	50µl
R1	3000µl	3000µl	3000µl

semi micro

	Reagent bl.	Standard	Sample
H₂O bidest.	20µl	--	--
Standard	--	20µl	--
Serum	--	--	20µl
R1	1000µl	1000µl	1000µl

Seal test-tubes, mix thoroughly. Leave for 5', shake intensely for about 30'', leave for 30'. Centrifuge for 5' to 10' at high rotational speed.

During reaction time leave in the dark.

Use clear supernatant for further assay procedure.

Pipette into cuvettes:

macro

	50µl	50µl	50µl
Supernatant	50µl	50µl	50µl
R2	3000µl	3000µl	3000µl

semi micro

	20µl	20µl	20µl
Supernatant	20µl	20µl	20µl
R2	1000µl	1000µl	1000µl

After 5' at 25°C or 3' at 37°C measure absorbance of standard $A_{(STANDARD)}$ and of sample $A_{(SAMPLE)}$ against reagent blank $A_{(RBL)}$.

CALCULATION AND LINEARITY

$$\delta A_{(S)} = A_{(RBL)} - A_{(SAMPLE)} / \delta A_{(STD)} = A_{(RBL)} - A_{(STANDARD)}$$

$$\delta A_{(S)} / \delta A_{(STD)} \times 150 = \text{Sodium (mmol/l)}$$

The method is linear up to a concentration of 300mmol/l.

REFERENCES

1. Trinder P. - Analyst 76 (1951) 596
2. Guder W., Hoffmann G., Oppitz K. H. - Normalbereiche klinischer chemischer Befunde in den Städtischen Krankenhäusern Münchens (1982).