CheKine™ Micro Serum Sodium Assay Kit

Cat #: KTB2130 Size: 48 T/96 T

	Micro Serum Sodium Assay Kit		
REF	**Cat #:** KTB2130	LOT	**Lot #:** Refer to product label
	Detection range: 0.0025-0.05 mol/L		**Sensitivity:** 0.0025 mol/L
	Applicable samples: Serum		
	Storage: Stored at 4℃ for 6 months		

Assay Principle

Serum sodium plays an important role in maintaining normal extracellular fluid volume and osmotic pressure, as well as the acid-base balance of body fluids. CheKine™ Micro Serum Sodium Assay Kit provides a simple method for detecting serum sodium concentration in serum sample. The sodium and potassium pyroantimonate reagent in the serum form a precipitate in the weakly alkaline solution, and the amount of the precipitate is proportional to the sodium concentration. The sodium content in the serum can be determined according to its turbidity.

Materials Supplied and Storage Conditions

Kit components	Size		Storage conditions
	48 T	96 T	
Reagent A	15 mL	30 mL	4℃
Standard	1 mL	1 mL	4℃

Materials Required but Not Supplied

- Microplate reader or visible spectrophotometer capable of measuring absorbance at 520 nm
- 96-well plate or microglass cuvette, precision pipettes, disposable pipette tips
- Freezing centrifuge, incubator
- Anhydrous ethanol, 90% ethanol

Reagent Preparation

Reagent A: Ready to use as supplied. Equilibrate to room temperature before use. Store at 4℃. If there is jelly in the reagent, put it in boiling water bath to be heated and dissolved before reuse.

Setting of Standard Curves: Dilute the 1 mol/L Standard to 0.05、0.04、0.03、0.02、0.01、0.005、0.0025 mol/L standard solution with 90% ethanol, as shown in the following table.

Num.	Volume of 1 mol/L Standard (μL)	Volume of 90% Ethanol (μL)	Standard Concentration (mol/L)
Std.1	50	950	0.05
Std.2	40	960	0.04
Std.3	30	970	0.03
Std.4	20	980	0.02
Std.5	10	990	0.01
Std.6	5	995	0.005
Std.7	2.5	997.5	0.0025

Sample Preparation

Serum: Add 100 μL of serum and 900 μL of anhydrous ethanol, mix well. Centrifuge at 10,000 rpm for 10 min at 4℃. Use supernatant for assay, and place it on ice to be tested.

Note: Blood should be collected on an empty stomach during blood collection, and sodium citrate anticoagulant should be avoided.

Assay Procedure

1. Preheat the microplate reader or visible spectrophotometer for more than 30 min, and adjust the wavelength to 520 nm, visible spectrophotometer was returned to zero with deionized water.

2. Sample measurement (The following operations are operated in the 96-well plate or microglass cuvette).

Reagent	Blank Well (μL)	Standard Well (μL)	Test Well (μL)
Supernatant	0	0	20
Different Concentration Std.	0	20	0
90% Ethanol	20	0	0
Anhydrous Ethanol	20	20	20
Reagent A	200	200	200

3. Mix well and kept at room temperature for 5 min. The absorbance value is measured at 520 nm. The blank well is marked as A_{Blank}, the standard well is marked as $A_{Standard}$, and the test well is marked as A_{Test}. Finally calculate $\Delta A_{Test}=A_{Test}-A_{Blank}$, $\Delta A_{Standard}=A_{Standard}-A_{Blank}$.

Note: Blank well only needs to measure 1 time. In order to guarantee the accuracy of experimental results, need to do a pre-experiment with 2-3 samples. When the ΔA_{Test} value is greater than 1, it is recommended to measure after dilution by anhydrous ethanol.

Data Analysis

Note: We provide you with calculation formulae, including the derivation process and final formula. The two are exactly equal. It is suggested that the concise calculation formula in bold is final formula.

1. Drawing of standard curve

With the concentration of the standard solution as the y-axis and the $\Delta A_{Standard}$ as the x-axis, draw the standard curve.

2. Calculation of the concentration of serum sodium

Bring the ΔA_{Test} of the sample into the equation to get the y value (mol/L).

Serum Sodium (mol/L)=n×y**=10×y**

Where: n: Dilution factor of sample, 10.

Typical Data

Typical standard curve:

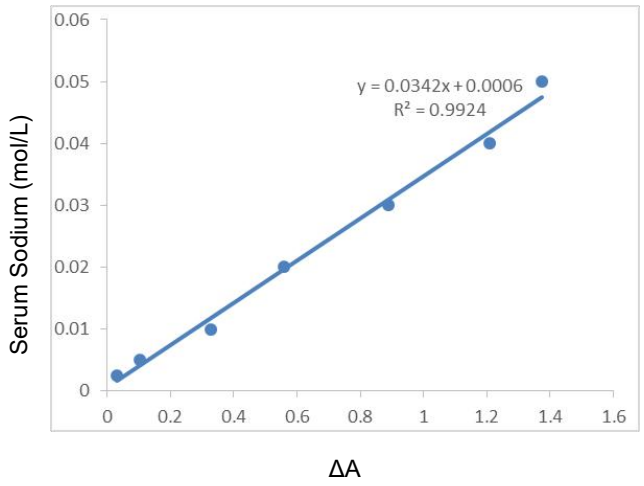

Figure 1. Standard curve for Serum Sodium.

Recommended Products

Catalog No.	Product Name
KTB2140	CheKine™ Micro Serum Zinc Assay Kit

Disclaimer

The reagent is only used in the field of scientific research, not suitable for clinical diagnosis or other purposes.