Blood Ammonia Content Assay Kit

Note: Take two or three different samples for prediction before test.
Operation Equipment: Spectrophotometer
Catalog Number: BC4380
Size:50T/48S

Components:

Extract solution I: Liquid 40 mL×1.

Extract solution II: Liquid 40 mL×1.

Reagent I A: Liquid 7 mL×1. Storage at 4℃.

Reagent I B: Liquid 28 mL×1. Storage at 4℃. Reagent I working solution: make the solution as the volume ratio of Reagent I A: Reagent I B= 1:4, prepare the reagent when it will be used.

Reagent II: Liquid 35 mL×1. Storage at 4℃.

Standard: Liquid 1 mL×1, 100 μmol/mL ammonia standard solution. Storage at 4℃.

Product Description

Endogenous and exogenous ammonia are the main sources of blood ammonia. Ammonia maintains steady state in the blood, which means the source and consume of blood ammonia maintain dynamic balance. Ammonia is a poisonous and harmful substance and the metabolic detoxification mainly in the liver. Ammonia cannot be detoxified when liver function is severely impaired. Accumulation of ammonia in the central nervous system can lead to hepatic encephalopathy.

In this kit, the method is based on the principle of indophenol blue reaction of ammonia. First, the protein in the serum (plasma) is precipitated by a protein precipitating agent, and then the blood ammonia is measured by the direct colorimetric method of phenol-hypochlorite. The absorbance ratio of blue indophenol is in direct proportion to the contents of ammonia and has a special absorption peak at 630 nm.

Reagents and Equipment Required but Not Provided:

Spectrophotometer, desk centrifuge, 1 mL glass cuvette, transferpettor, water-bath/constant temperature incubator, EP tubes, and distilled water.

Procedure:

I. Applicable range:

This kit can be used to measure the content of blood ammonia in serum (plasma) of various animal and other samples.

II. Determination procedure:

1. Preheat the spectrophotometer 30 minutes, adjust the wavelength to 630 nm and set zero with distilled water.
2. Standard solution: dilute the 100μmol/mL ammonia standard solution with distilled water to 3, 2, 1, 0.5, 0.25, 0.125μmol/mL.

3. Add reagents with the following list:

Reagent Name (μL)	Blank Tube (B)	Standard Tube (S)	Test Tube (T)
Serum(plasma)	-	-	200
Standard Solution	-	200	
Distilled water	200	-	-
Extract solution I	500	500	500
Extract solution II	500	500	500
Mix well, centrifuge at 3500 rpm for 10 minutes, take the supernatant for test.			
Supernatant	400	400	400
Reagent I	400	400	400
Reagent II	400	400	400
Mix well, place at 37℃ for 20 minutes.			

Mix well, take 1 mL of reaction solution to the 1 mL glass cuvette and measure the absorbance at 630nm, noted as A_B, A_S, A_T. $\Delta A=A_T-A_B$, $\Delta A_S=A_S-A_B$.

III. Calculation:

1. Standard curve

The concentration of standard solution as x-axis, ΔA_B as y-axis, obtain the equation y=kx+b. Take ΔA to the equation to acquire x value.

2. Calculation

Blood ammonia content (μmol/mL) = x×Vs÷Vs= x

Vs: Sample volume (mL), 0.2 mL.

Note:

1. Blank tube needs only to be tested once or twice.
2. Use as soon as possible after Reagent I is configured. Cannot be used if discoloration is found.
3. All equipment and blood collection devices should be free of ammonia. Measured immediately after blood collection, if cannot be measured immediately can be kept at 2-8℃ and for 2 hours. All sample should not be hemolyzed.

Related products：

BC2770/BC2775 Blood Potassium Content Assay Kit
BC2790/BC2795 Blood Magnesium Content Assay Kit
BC1650/BC1655 Blood Phosphate Content Assay Kit
BC2800/BC2805 Blood Sodion Content Assay Kit
BC1730/BC1735 Serum Ferri Ion Content Assay Kit

Technical Specifications：

Minimum Detection Limit：0.0258 μmol/mL

Linear Range：0.125-3 μmol/mL