

(FOR RESEARCH USE ONLY. DO NOT USE IT IN CLINICAL DIAGNOSIS!)

CO₂ Combining Power Assay Kit

Catalog No.: BC00213

Size: 50T

Please read the instructions carefully before use. If you have any questions or need further help during experiment, please don't hesitate to contact us through the following methods:

✉ Email (Sale)	order@enkilife.com
✉ Email (Techsupport)	techsupport@enkilife.com
☎ Tel:	0086-27-87002838
🌐 Website:	www.enkilife.com

Shelf life: Please refer to the label on the outer package.

Techsupport: In order to provide you with better service, please inform us the lot number on the label of the outer package.

Basic Information

Product Name	CO ₂ Combining Power Assay Kit
Detection Method	Titration
Sample Type	Serum, plasma
Assay Type	Quantitative

Principle

Add excess standard hydrochloric acid solution to serum (plasma). Bicarbonate in the sample is neutralized to release carbon dioxide. The residual hydrochloric acid is then titrated with standard sodium hydroxide solution, based on which the bicarbonate content (i.e., carbon dioxide combining power) in serum (plasma) can be calculated.

Components

No.	Components	Size	Note
Reagent 1	0.01mol/L HCl	2 mL×10	Store at room temperature.
Reagent 2	0.01 mol/L NaOH	2 mL×10	Store at room temperature.
Reagent 3	Phenol red solution	1 mL×5	Store at 4°C.

Storage

The kit can be stored for 6 months under specified conditions.

Operation process

	Assay tube	Control tube
Sample (mL)	0.1	
Normal saline (mL)	2	2.5

Phenol red solution (mL)	0.1	0.1
0.01mol/L HCl (mL)	0.5	
Mix thoroughly for 30 seconds.		
Then titrate the test tube with 0.01 mol/L NaOH until its color is similar to the control tube. The endpoint is defined as no color fading within 30 to 60 seconds. Record the volume (V_{NaOH}) of NaOH consumed in milliliters.		

Calculation

$$\text{CO}_2 \text{ Combining Power (mmol/L)} = (0.5 - V_{\text{NaOH}}) \times 0.01 \div V_{\text{Sample}}$$

Annotation:

0.5: Total volume of 0.01 mol/L HCl added to the assay tube

0.01: Concentration of sodium hydroxide used for titration, 0.01 mol/L

V_{Sample} : Volume of sample added

Reference range

Normal values: 18~29.2 mmol/L for adults; 18~27 mmol/L for children.

Precautions

1. It is recommended to use disposable laboratory test tubes for operation.
2. This product is intended for scientific research use only by professionals and must not be used for clinical diagnosis or treatment, in food or drugs, or stored in ordinary residences.
3. Seal all reagents tightly and avoid exposure to air. The 0.01 mol/L hydrochloric acid and 0.01 mol/L sodium hydroxide shall be mutually titrated for complete neutralization with no excess left.
4. Blood samples should be protected from air exposure. Separate plasma promptly and proceed with the assay immediately. Add 0.5 mL of liquid paraffin to each blood collection tube after

sampling.

5. Routine tests are performed at room temperature. The results may not fully reflect the actual HCO_3^- in plasma. When the actual HCO_3^- concentration is high, the values measured by this method may be slightly lower.