Customer service: service@abbkine.com
Technical support: support@abbkine.com
Website: https://www.abbkine.com

Mitochondrial Activity Detection Kit

Cat #: KTA4003 Size: 3×10 mL

	Mitochondrial Activity Detection Kit		
REF	**Cat #:** KTA4003	LOT	**Lot #:** Refer to product label
	Applicable samples: Cells, Protoplasts and Plant leaves		
	Storage: Stored at -20℃ for 6 months, protected from light		

Assay Principle

Mitochondria is an important organelle in cells, which of main function is to provide energy for metabolism of various substances in cells. Janus Green B is an alkaline dye with less toxicity. It can stain the living cells directly, and in the cytoplasm, we can see the mitochondria stained with blue-green linear or granular bodies. The reason why mitochondria can show blue-green is that there is cytochrome oxidase system in mitochondria, which makes the dye always in the oxidation state blue-green, while the dye in the background is reduced to colorless. Mitochondrial Activity Detection Kit provides a simple and rapid method for mitochondrial activity detection, and is suitable for the functional detection of various living cells and their mitochondrial preparations. The product is strictly sterile, ready to use.

Materials Supplied and Storage Conditions

Kit components	Size	Storage conditions
	3×10 mL	
Storage Buffer	10 mL	-20℃
Stain Solution	10 mL	-20℃, protected from light
Assay Buffer	10 mL	4℃

Materials Required but Not Supplied

- Centrifuge tubes, precision pipettes, disposable pipette tips
- Centrifuge
- Slides, coverslips, optical microscopes

Reagent Preparation

Storage Buffer: Ready to use as supplied. Place on ice before use; store at -20℃. Storage Buffer is used for the preservation of

mitochondrial samples extracted.

Renilla Stain Solution: Ready to use as supplied. Place on ice before use; store at -20℃, protected from light.

Assay Buffer: Ready to use as supplied. Place on ice before use; store at -20℃.

Assay Procedure

1. For Living Cell samples:

(1) Collect 1×10^6 cells to be tested in a 1.5 mL centrifuge tube.

(2) Centrifuge at 500 g for 1 min and discard the supernatant.

(3) Add 500 μL Assay Buffer and 500 μL Stain Solution into the tube and mixgently. Incubate on ice for 20 min, protected from light, then take 10 μL onto a slide and cover it with a coverslip.

(4) View under the oil immersion lens: the active mitochondria present blue-green round or oval particles.

2. For Purified Mitochondrial Samples:

(1) Take 5-100 μL of purified mitochondria (mitochondria extracted from 1×10^6 cells) into a 1.5 mL centrifuge tube and place it on ice.

Note: Mitochondria must be evenly distributedand not clustered.

(2) Add the same amount Stain Solution, mix gently, incubate at room temperature for 1 min, protected from light, then take 10 μL onto a slide and cover it with a coverslip.

(3) View under the oil immersion: the active mitochondria present blue-green round or oval particles. The blue-green intensity is significantly weakened or colorless, indicating that the mitochondrial cytochrome oxidase system is not fully functional or lost.

Precautions

1. Before the experiment, remove all reagents from the refrigerator and let them melt at 4℃.
2. It is recommended to operate in sterile state.Wear gloves during operation. The operation of mitochondrial samples should be carried out fast at low temperature.

Recommended Products

Catalog No.	Product Name
KTP4003	ExKine™ Mitochondrion Extraction Kit (Cultured Cells)
KTP4004	ExKine™ Mitochondrion Extraction Kit (Tissue)
KTC4003	TraKine™ Mitochondrion Staining Kit (Green Fluorescence)
KTC4004	TraKine™ Mitochondrion Staining Kit (Orange Fluorescence)

Disclaimer

The reagent is only used in the field of scientific research, not suitable for clinical diagnosis or other purposes. For your safety and health, please wear a lab coat and disposable gloves.