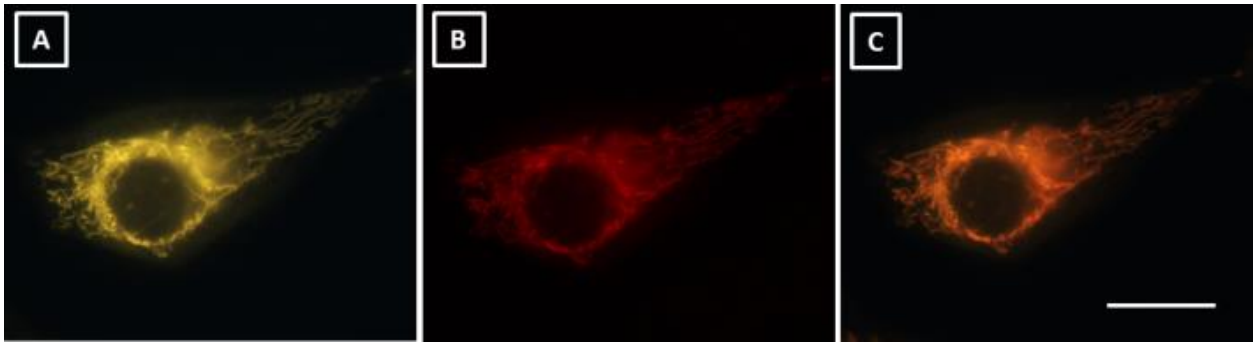


Product Specification

AIE™ Mitochondria Yellow



Product Description

- This product can be used for quickly staining the mitochondria in the cells and emits yellow fluorescence.
- This product shows a better photostability, compared to the commercial mitochondria dyes.

Demonstrations

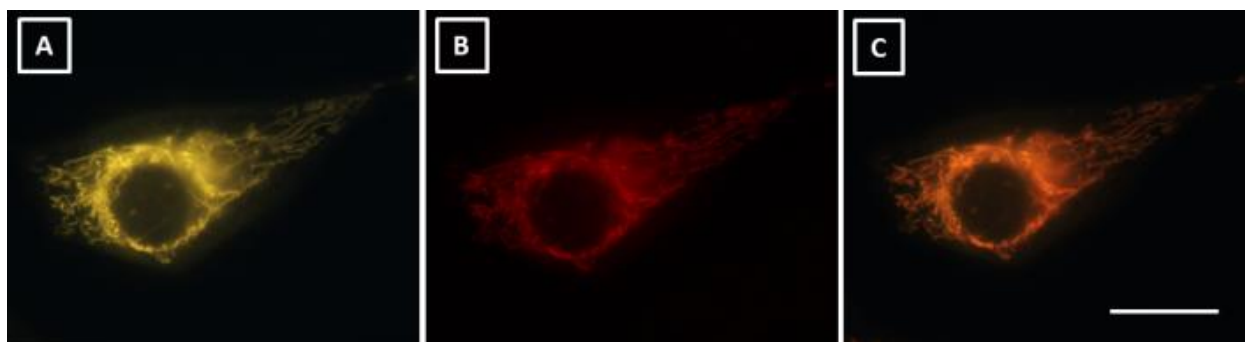


Figure 1: Confocal microscopic images of HeLa cells stained for 15 minutes by (a) yellow emissive mitochondria-targeting AIE™ Mitochondria Yellow (5 μ M) and (b) red emissive MitoTracker Red (100 nM); (C) overlaid image of A and B. (Scalar bar: 20 μ m)

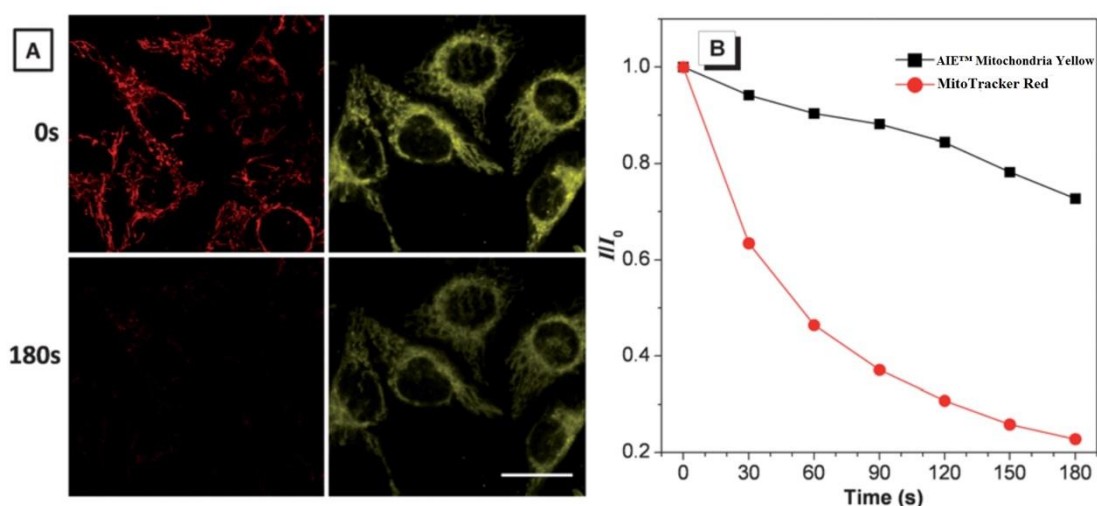


Figure 2: (A) HeLa cells irradiated for 0 and 180 seconds, after incubated with yellow emissive mitochondria-targeting AIE™ Mitochondria Yellow and red emissive MitoTracker Red, respectively. The excitation wavelength was 405 nm for AIE™ Mitochondria Yellow and 560 nm for MitoTracker Red, respectively. (B) The decaying curves of fluorescence emission with time after cells incubated with AIE™ Mitochondria Yellow and MitoTracker Red, respectively.

Recommended storage condition

Store away from sunlight at 2-8 °C

Product parameters

Purpose	Mitochondria staining
Color:	Yellow powder
Imaging platform:	Fluorescence microscope
Pack size and quantity:	10 μmol
Detection method:	Fluorescence
Excitation/ Emission (nm):	403±50 / 600±60
Recommended transport condition:	Room temperature
Product declaration:	Only used for research. Do not apply to any detection procedure.

AIEgen Probe for Mitochondria Targeting (Yellow)

Introduction

- This product stains the living cell mitochondria with yellow fluorescence.
- After incubation with this product **WITHOUT WASHING**, living cells can be observed under fluorescence microscope and yellow signals can be obtained at following optical condition:
$$\text{Excitation/Emission} = 400 \pm 30 / 580 \pm 50 \text{ nm}$$
- The product has superior photostability compared to other commercial mitochondrial stains. Signals can be retained after 50 scans on confocal microscope with the 405 nm laser.

Material Preparation and Microscope Recommendation

- **Stock solution prepare:** AIE™ Mitochondria Yellow (5 mM) stock solution is prepared with the 10 μmol of AIE™ Mitochondria Yellow in 2 mL DMSO.
- **Fluorescence Microscope:** The HeLa cells could be imaged under a fluorescence microscope ($\lambda_{\text{ex}} = 365\text{-}424 \text{ nm}$)
Note: Confocal Microscopy – Recommended with 405 nm laser as excitation (Laser power at researcher's discretion).

Before Your Experiment, You might NEED

1 Living Cells

3 DMSO

5 Millipore Water

2 Culture Media

4 Buffer PBS solution

Protocol (Recommended)

Cell Culture

The HeLa cells were cultured in minimum essential medium containing 10 % fetal bovine serum and antibiotics (100 units/mL penicillin and 100 μ g/mL streptomycin) in a 5 % CO₂ humidity incubator at 37 °C.

Cell Imaging

1. **Prepare:** HeLa cells were grown overnight on a petri dish (35 mm) with a coverslip.
2. **Staining:** The live cells were stained with 5 μ M of AIETM Mitochondrial Yellow for 15 min (by adding 2 μ L of a 5 mM stock solution in DMSO to 2 mL culture medium).
3. **Wash:** *(Skip) free of washing.*
4. **Before imaging:** No need to add any imaging media, and please proceed to next step.
5. **Ready to go:** The cells were observed under a fluorescent microscope through the observation window.

Note

Drill a hole of around 10 mm diameter in the middle of the dish. Place cover slide over the dish using paraffin.

Fluorescent Spectrum

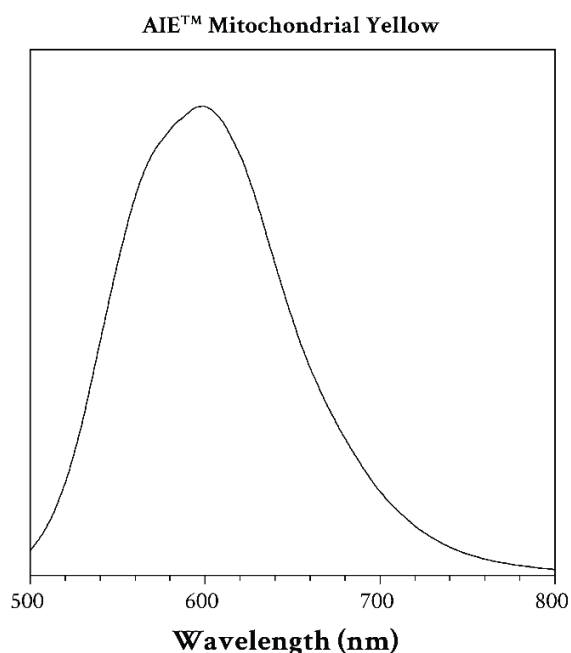


Figure 1 Photoluminescent spectrum of AIETM Mitochondrial Yellow probe in solid state. Excitation: 403 nm

Reference

1. Zhao, N.; Li, M.; Yan, Y.; Lam, J. W. Y.; Tang, B. Z. "A tetraphenylethene-substituted pyridinium salt with multiple functionalities: synthesis, stimuli-responsive emission, optical waveguide and specific mitochondrion imaging" *J. Mater. Chem. C*, **2013**, 1, 4640–4646.
2. Optical information and suggested storage conditions:

Item	Ex/Em	Qty	Storage Condition*
AIE™ Mitochondria Yellow	405/580 nm	10 μmol	<ul style="list-style-type: none">• ≤-20 °C (Upon receive this product)• Avoid Light• Keep Dry

* Remember to warm up to room temperature upon opening the vial