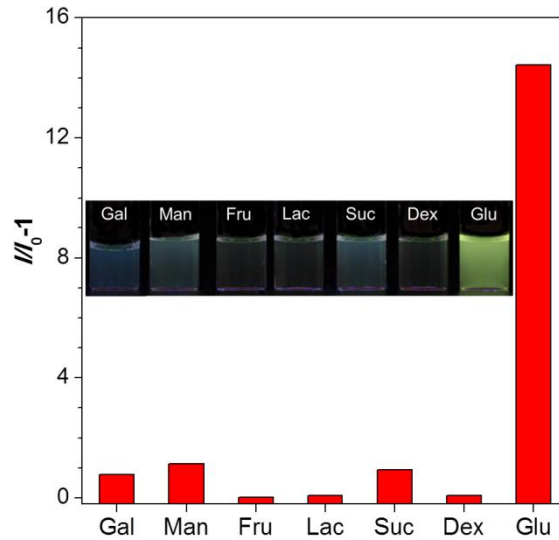


Product Specification

AIE™ Glucose



Product Description

- Quick detection of glucose in aqueous solution.
- The yellow signal was excited at 365 nm and detected at 540 nm after adding samples into probe solution.
- High sensitivity and selectivity for glucose detection.
- Superior anti-interference compared with the glucose detection agents on market (capable of detecting the glucose in serum).

Demonstrations

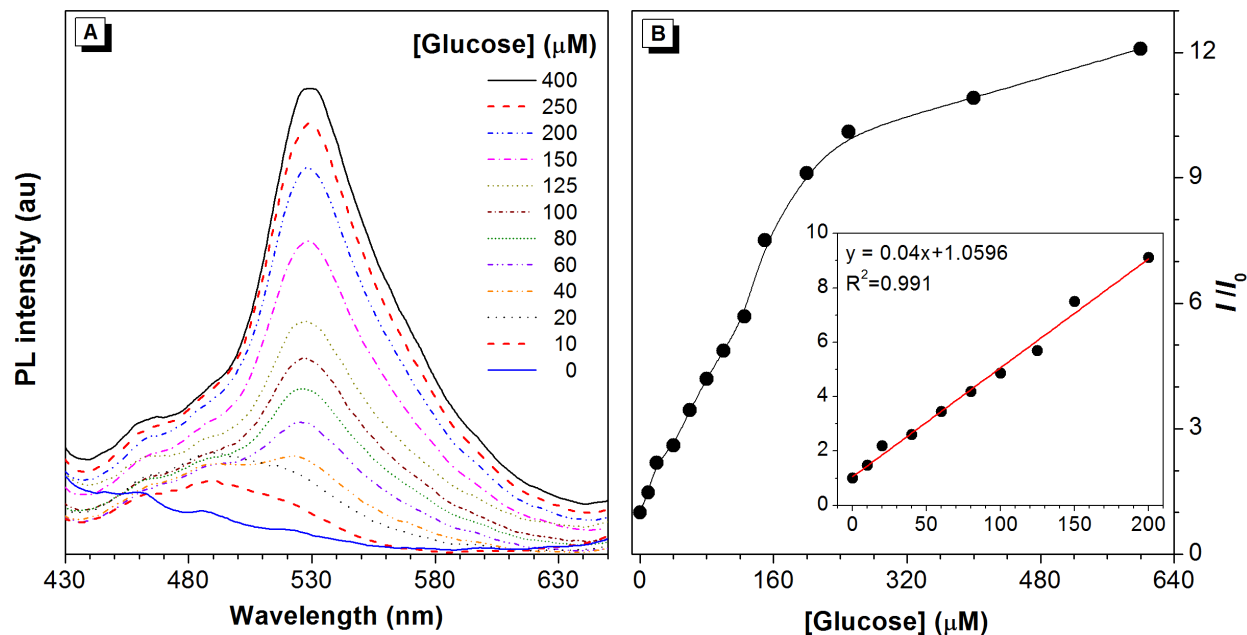


Figure 1. (A) The fluorescence spectra of the probe solution with different glucose concentration; (B) The ratio of fluorescence increase versus the glucose concentration.

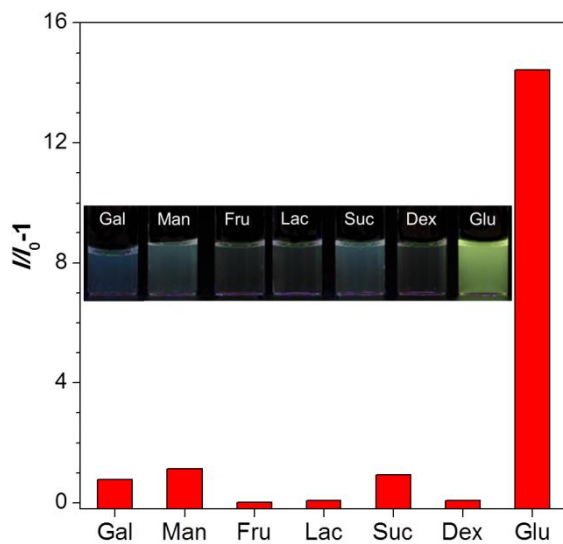


Figure 2. The response of probe solution to different saccharides. Insets: the fluorescence pictures of probe solution with different saccharides.

Recommended storage condition

Store away from sunlight at 2-8 °C

Product parameters

Limited of Detection	0.5 μ M – 1 μ M
Color:	Yellow
Imaging platform:	Fluorescence microscope Confocal microscope
Pack size and quantity:	10 μ mol
Detection method:	Fluorescence
Excitation/ Emission (nm):	344 \pm 30/540 \pm 20
Recommended transport condition:	Room temperature
Product declaration:	Only used for research. Do not apply to any detection procedure.

Product operation method and handbook

[handbook is uploaded with PDF file]; [MSDS handbook]

AIEgen Probe for Glucose Detection

Introduction

- This product is suitable for glucose detection with yellow fluorescence with high selectivity and sensitivity.
- Under basic condition, this probe shows a better performance. It could selectively “turn-on” after 60 minutes of incubation. The fluorescence intensity could be obtained in following optical condition:

$$\text{Excitation/Emission} = 375 \pm 30 / 540 \pm 50 \text{ nm}$$

- The product is applicable for the glucose detection range from 0 to 200 μM . (it needs to work with glucose oxidase, shorten as GOx)
- It could be also applied to serum glucose detection.

Stock Solution Preparation

1. **AIEgen solution prepare:** AIE™ Glucose (400 μM) stock solution is prepared with the 10 μmol of AIE™ Glucose in 25 mL acetonitrile (ACN) or user could use less amount of the probe to make desired concentration stock solution.
2. **Tris Solution prepare (#1 stock solution):** Weight 10 mmol of Tris-HCl and dissolve in 1L of Millipore water. The solution should be around pH 10.2 and ready to use.
3. **Solution preparation for glucose detection (#2 stock solution):** Blending 1.78 mL of #1 stock solution (pH 10.0), 20 μL GOx stock solution (200 U/mL) and 200 μL AIE™ Glucose stock solution in a cuvette.

Before Your Experiment, You might NEED

1 Acetonitrile ([Link](#))

2 GOx ([Link](#))

3 TRIS ([Link](#))

4 Fluorescence Cuvette ([Link](#))

5 Hydrochloric Acid ([Link](#))

6 Milli-Q Water (or DI water)

Protocol (Recommended)

Glucose Detection

1. Measure blank solution (#2 stock solution) fluorescent intensity at 540 nm and record as I_0 . Then proceed to add your sample as following steps.
2. Adding certain amount (e.g., 20 μL) of sample into your initial fluorescent intensity measured #2 stock solution
3. Incubate your sample solution at 37 °C for 40 minutes.
 - ❖ *For serum samples, we recommend adding 20 μL of serum and record the dilution ratio, i.e., 100; if the volume of sample is more than 20 μL , further experiments are needed to conduct for a changed calibrated curve.*
4. Take your sample out from incubator and measure again for fluorescent intensity at 540 nm and record it as I .

Glucose Quantification

1. Calculate the intensity enhancement ratio of I/I_0 .
2. Obtaining the glucose concentration according to the working curve.
 - ❖ $y = 0.04x + 1.059$
3. Where y equals to I/I_0 and x is glucose concentration.
4. Multiply the glucose concentration got above by the dilution ratio, obtaining the real glucose concentration.

Note

If your x value is higher than 200 μM , the value is not suitable for the above quantification method. We strongly recommend you to further dilute your sample for accuracy.

Reference

1. Song, Z.; Kwok, R. T. K.; Ding, D.; Nie, H.; Lam, J. W. Y.; Liu, B.; and Tang, B. Z. "An AIE-active fluorescence turn-on bioprobe mediated by hydrogen-bonding interaction for highly sensitive detection of hydrogen peroxide and glucose" *Chemical Communications* 2016, 52, 10076.
2. Optical information and suggested storage conditions:

Item	Ex/Em	Qty	Storage Condition*
AIE™ Glucose	375/540 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