Protein Labeling Kit (AIE)

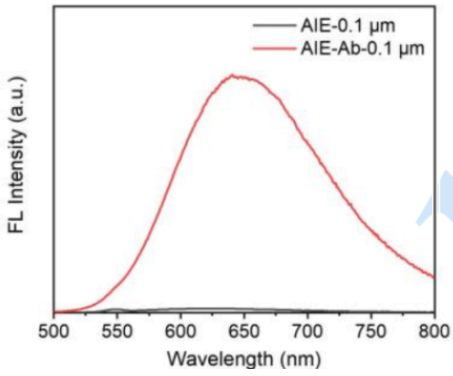
A1456399

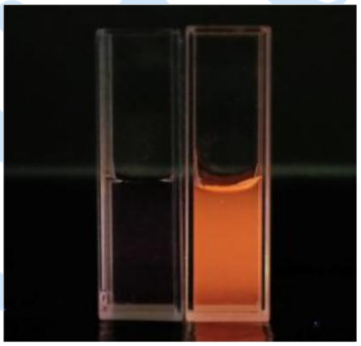
Introduction:

Protein Labeling Kit (Aggregation-induced emission, AIE) is developed based on the principle of aggregation-induced emission (AIE) and is used for labeling general proteins. Its labeling principle is that the AIE dye in the kit carries active groups, which can react with the primary amino groups (lysine residues) on the protein surface to form stable amide bonds. The AIE dye has high reactivity and can quickly label general proteins.

The optimal excitation wavelength of the AIE dye is 460 nm, and the emission wavelength range is 570–700 nm, which is suitable for a series of instruments equipped with a blue light excitation wavelength detector.

Marking renderings:





Kit Contents and Storage Conditions:

A1456399	Component	1 set	Storage
A1456399A	AIE Dye (Lyophilized powder)	1Tube	-20℃. Store in the dark.
A1456399B	Buffer (1×)	30 mL	2-8℃.
A1456399C	0.1 μm Syringe Filter	10EA	RT.

Notes:

1. After receiving the product, customers should store it according to the temperature indicated on the product label.
2. Customers need to prepare dimethyl sulfoxide (DMSO) reagents and disposable syringe

consumables by themselves.

Experimental Methods:

1. Replacement of protein sample buffer solvent: Before starting to label the protein, ensure that the protein sample buffer is compatible with the kit. If your protein sample buffer contains one or more of primary amino groups (such as Tris and glycine), imidazole, DTT, and β-mercaptoethanol, please replace it with Buffer 1× buffer solution before labeling.
2. Preparation of AIE dye stock solution: Add 20 μL of DMSO to the small tube containing AIE dye lyophilized powder, mix well to dissolve, and prepare a 10 mM AIE dye stock solution.

Notes:

1) Before dissolving with DMSO, let the AIE dye lyophilized powder return to room temperature and centrifuge for 10 seconds.
2) After dissolution, it can be aliquoted for storage as needed.
3. Protein labeling method (recommended).

1) Dilute the protein sample with Buffer 1× to a concentration of approximately 150 μg/mL. Add 10 mM AIE dye stock solution to the above protein sample solution to make its final concentration in the protein sample solution 10 μM (for example, when the volume of the protein sample solution is 1 mL, add 1 μL of 10 mM AIE dye stock solution; the dosage can be adjusted according to the actual situation of the protein sample), and mix well.
2) Add 10 mM AIE dye stock solution to the above protein sample solution to make its final concentration in the protein sample solution 10 μM (for example, when the volume of the protein sample solution is 1 mL, add 1 μL of 10 mM AIE dye stock solution; the dosage can be adjusted according to the actual situation of the protein sample), and mix well.
3) Incubate at room temperature in the dark for 5–10 minutes.
4) After labeling, filter the labeled solution with a 0.1 μm needle filter to remove excess AIE dye.

Precautions:

1. The AIE dye is sensitive to humidity, so ensure that it is stored at -20°C in a dry and dark place. Before preparing the stock solution, let the dye return to room temperature and centrifuge for 10 seconds. After preparing the stock solution, aliquot it for storage and use it as soon as possible.
2. The buffer solution (pH = 8.5) provided in the kit is the first choice for the AIE dye to work. You can choose any buffer solution that does not contain primary amino groups, imidazole, DTT, or β-mercaptoethanol as a substitute, but it may affect the labeling efficiency.
3. It is recommended that the minimum concentration of the protein during labeling is not less than 15 μg/mL.
4. Due to the differences in the number and reactivity of amino groups on the protein surface, the labeling effects of different proteins may vary. If the labeling effect is not good, the dye labeling concentration can be appropriately increased or the reaction time can be

prolonged.

5. For your safety and health, please wear a lab coat and disposable gloves during operation.
6. This product is only for scientific research purposes.