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

R-phycoerythrin Antibody Quick Labeling Kit

Catalog No.: RE80005

Size: 0.3 mg

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.

Product Introduction

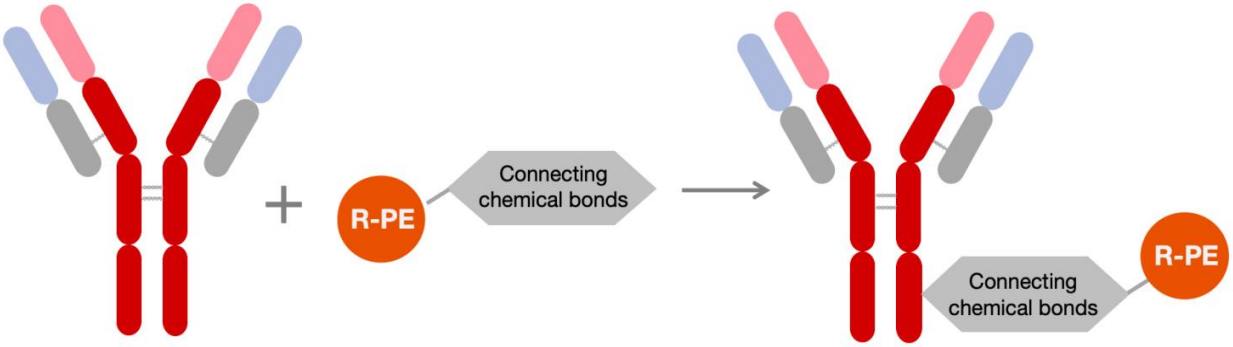
R-phycoerythrin (R-PE) is a fluorescent protein isolated and purified from red algae, with a maximum excitation wavelength of 565nm and a maximum fluorescence emission peak of 575nm. Due to its high absorbance and fluorescence quantum yield, strong and stable fluorescence, and high sensitivity, it is highly favored in the field of immunodetection labeling. The subunit composition of R-PE protein is $(\alpha\beta)_6\gamma$, with a molecular weight of 20KDa for each α, β subunit and 30KDa for each γ subunit, giving a total molecular weight of 240kDa.

Product Features

- The kit is complete with reagents and easy to operate; high-quality R-PE labeled antibodies can be obtained by following the operating steps.
- The R-PE provided in this kit is a high-purity, high-activity fluorescent protein with higher fluorescence efficiency.
- This kit uses directional coupling technology, ensuring that neither the fluorescent protein nor the antibody will self-link, guaranteeing the specificity and uniformity of the conjugate.
- The crosslinking agent used in this kit has an extended arm, ensuring that the luminous efficiency is not affected by protein steric hindrance.
- Given the protein scaffold characteristics of R-PE, it has stronger anti-quenching capabilities.

Labeling Principle

This kit utilizes the free amino groups on antibodies and R-PE to covalently couple the antibody molecules with R-PE through directional docking coupling technology. This kit adopts a long-arm scheme, providing a certain length of flexible connection arm between the labeled antibody and the fluorescent protein to prevent steric hindrance from affecting antibody activity or the luminous efficiency of the fluorescent protein.



Product Components

Component	Size/Quantity
Activated R-PE Protein	1mg, can label 0.3-0.5mg of antibody (other specifications calculated proportionally)
Labeling Buffer	30ml
Antibody Modification Reagent	30ul*1vial
30KMWCO Ultrafiltration Tube	2vials
Blocking Reagent	1 vial (add 5ul of DMSO before use)
DMSO Solvent	200ul * 1 vial
Manual	1 copy

Storage

The antibody modification reagent and blocking reagent in the kit should be stored at -20˚C, while the rest of the components can be stored at 2-8˚C for up to 6 months.

Operation Process

1. Antibody Modification

1.1. Take the antibody to be labeled (purity >90%), adjust the concentration to about 5mg/ml with labeling buffer, add 2μl of antibody modification reagent per mg of antibody, gently mix, and react in the dark at room temperature for 90 minutes.

1.2. After the reaction is complete, transfer it to a 30KMWCO ultrafiltration tube, ultrafiltrate with labeling buffer 3 times (each time the residual liquid in the tube core should not exceed 1/4 of the original liquid volume), to obtain the modified antibody.

2. Conjugation of Activated R-PE Protein and Antibody

2.1. Redissolve the activated R-PE protein with labeling buffer, adjust the concentration to 5mg/ml.

2.2. Mix the modified antibody with activated R-PE protein in a mass ratio of 1:3 (3mg of activated R-PE protein per mg of modified antibody), and react in the dark at room temperature for 2 hours.

2.3. Add 5ul of DMSO to the blocking reagent vial, and add 5ul per 0.5mg of antibody to the reaction product from step "2.2", to block the unreacted active groups.

2.4. Package the labeled antibody, add an appropriate protectant, and store at -20℃ for future use.

Notes

- The antibody modification reagent and blocking reagent in this kit are highly active reagents, please store at -20℃; the rest of the components should be stored at 2-8℃ and should not be frozen.
- The kit components may be inverted during transportation, causing liquid or dry powder reagents to adhere to the tube walls or bottle caps. Please centrifuge before use to deposit the liquid or dry powder reagents attached to the tube walls or bottle

caps to the bottom of the tube.

- The activated R-PE protein in this kit should be stored in the dark at low temperatures, and should be used up at one time after resuspension; the labeling process should ensure it is kept in the dark.
- The blocking agent should be prepared and used immediately, and cannot be stored for a long time after dissolving the dry powder.
- When using this kit to label antibodies, the antibody specificity should be high, with a purity of not less than 90%, and it is best to use monoclonal antibodies. The solution environment should be free of free amino groups, preferably a PBS solution; NaN3 and BSA should be removed from the antibody before labeling, and operations such as antibody dialysis, concentration, and concentration measurement can cause loss of antibody, so the optimal amount of antibody should be considered when preparing the antibody before labeling.
- Since the groups carried by the modified antibody are easily re-oxidized, the modified antibody should be conjugated with activated R-PE as soon as possible.
- The ultrafiltration tubes in this kit are specially treated and can effectively avoid fluorescence quenching and protein adsorption loss, while ultrafiltration tubes on the market may affect the labeling efficiency.
- Some reagents in this kit are highly active and may be harmful to the skin and body, please operate with gloves on; DMSO is a slightly toxic class, has permeability to human skin, and is irritating to the eyes, avoid contact with skin, eyes, and mucous membranes during use.