# PE [R-Phycoerythrin]

Cat #: B-CHM303

Size: 1mg/5mg

Storage: Store at 4°C protected from light.

## Product Introduction

Phycoerythrin is isolated and purified from red algae, capable of emitting strong fluorescence, excellent absorbance, and high quantum yield. It has a wide excitation and emission range in the visible spectral region. By using conventional labeling methods, it can be easily combined with biotin, avidin, and various monoclonal antibodies to form fluorescent probes, which are used for antibody fluorescence labeling such as fluorescence microscopy, fluorescence immunoassay, dual or multicolor fluorescence analysis, cancer cell surface antigen detection, flow cytometry fluorescence measurement, and diagnostic and bioengineering technologies such as in vivo imaging applications.

## Product Properties

**Form**: R-PE is supplied with 60% ammonium sulfate, 100 mM sodium phosphate buffer pH 7.0 with 5 mM EDTA, and 2 mM sodium azide.

**Spectral properties**: Ex / Em = 566 nm / 575 nm

**Purity**: A620/A566 <0.05, A566/A498 <1.5, A566/A280 >5

## Methods

1. Weight 10 mg of R-PE in ammonium sulfate solution, centrifuge (10,000 rpm, 10 min, 4°C), remove supernatant, and dissolve, re-suspend the precipitate in 1 ml PBS.

2. Continuously dilute by PBS.

3. To calculate the quality and concentration of R-PE, must measure the absorbance of stock solution dilution range 0.4-0.8 at 566 nm.

## Concentration & purity

1. Determined protein concentration using extinction coefficient:

2. A620/A566 is a general indicator of contamination with R-Phycocyanin (R-PC) or Allophycocyanin (APC) as both absorb at 620 nm while there is only residual absorbance by RPE at 620 nm.

3. A566/A498 is indicative of the identity of the purified pigment; R-PE has a strong secondary absorbance peak at 498 nm, where B-Phycoerythrin (B-PE) exhibits only a slight shoulder. A566/A498 <1.5 occurs only when a strong secondary peak is present, indicating that the pigment is R-PE, and not significantly contaminated with B-PE.

4. A566/A280 indicates purity of the preparation with respect to most forms of contaminating protein. Absorbance at 280 nm in these preparations is primarily due to aromatic amino acids, and thus is roughly proportional to the overall concentration of protein in solution, including R-Phycoerythrin (R-PE).

Absorbance at 566 nm reflects only the concentration of R-PE.

5. Example:

Dilution factor = 200 times

A620 = 0.003; A566 = 0.632; A498 = 0.45; A280 = 0.114

R-PE concentration = (0.632/ (1960000*1)) *240000 *200 = 11.02 mg/ml