

## CERTIFICATE OF ANALYSIS

**Product Name:** HomeALG R-Phycoerythrin (R-PE)

**Product Code:** HA-201

**Lot Number:** 21201014401

**Formulation:** HomeALG R-PE is suspended in 10 mM sodium phosphate, 60% ammonium sulfate, 1 mM EDTA, 1 mM sodium azide, pH 7.0 and must be dialyzed against conjugation buffer or PBS before using.

**Storage:** Store at 4°C in the dark. **(DO NOT FREEZE!)**

**Expiration:** 12 months after date of production.

**Concentration:** 76 mg/ml

**Results:** After dilution of 128 times

$A_{620} = 0.005$  ;  $A_{566} = 0.981$  ;  $A_{498} = 0.703$  ;  $A_{280} = 0.1715$

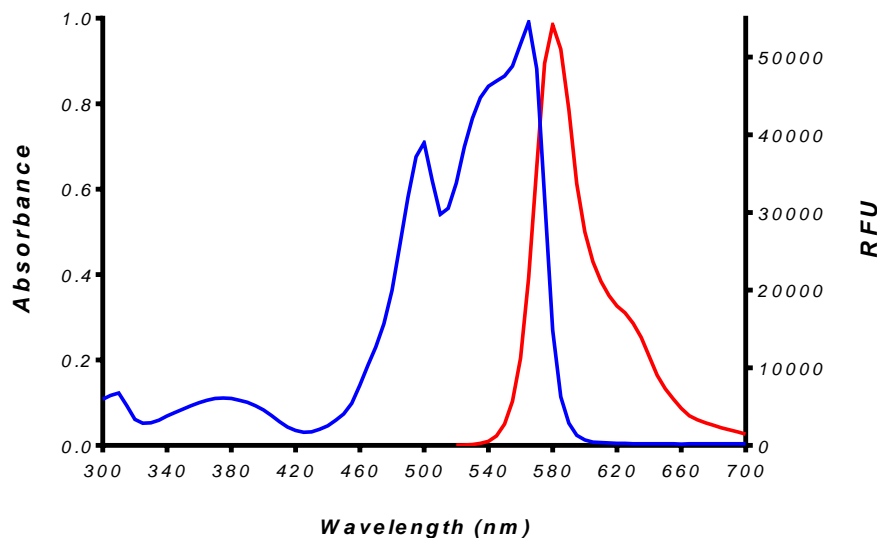
$A_{620}/A_{566} = 0.005$  ; (purity spec. < 0.05)

$A_{566}/A_{498} = 1.39$  ; (purity spec. < 1.5)

$A_{566}/A_{280} = 5.72$  ; (purity spec. > 5.0)

**Package:** 1380 µl/bottle; total: 105 mg in 1 bottle

### Absorbance and Fluorescence Spectrum



— Absorption    — Emission

Molecular weight: 240 kDa

Peak locations at 496, 545 and 565 nm. Emission  $\lambda_{max} = 578$  nm

This product has been tested by Quality Control and passed internal specifications.

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Authorized Signature

To calculate the quality of PE, you must measure the absorbance of your stock solution dilution range 0.1~0.2 at 280 nm. Then calculate quality and protein concentration using the following equation:

<sup>1</sup> Determined protein concentration using extinction coefficient.

$$\text{Concentration (mg/ml)} = \frac{\text{Absorbance at } \lambda_{\text{max}} \text{ (OD}_{565} \text{ nm)}}{\text{Extinction coefficient (1960000 M}^{-1} \text{ cm}^{-1}) \times \text{Pathlength (cm)}} \times \text{Molecular weight (240000 g/mol)} \times \text{Dilution factor}$$

<sup>2</sup>  $A_{566}/A_{280}$  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.

<sup>3</sup>  $A_{566}/A_{498}$  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.  $A_{566}/A_{498} < 1.5$  occurs only when a strong secondary peak is present, indicating that the pigment is R-PE, and not significantly contaminated with B-PE.

<sup>4</sup>  $A_{620}/A_{566}$  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.