PROzyme
A part of Agilent

CERTIFICATE OF ANALYSIS

PRODUCT NAME:	PHYCOPRO™ R-PHYCOERYTHRIN (red algae)
PRODUCT CODE:	PB31
LOT NUMBER:	291 233
FORMULATION:	Protein suspension in 60% ammonium sulfate, 50 m*M* potassium phosphate (pH 7.0) and 5 m*M* sodium azide
STORAGE:	Store at 2-8°C in the dark. DO NOT FREEZE

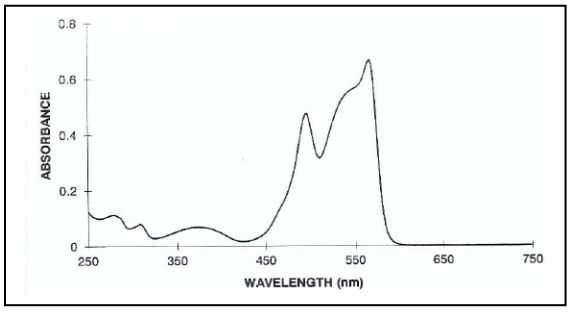
Concentration:

20.0 mg/ml[1] (> 10mg/ml)

Absorbance Ratios:

A_{566}/A_{280} = 5.80 (>5.30)
A_{566}/A_{496} = 1.40 (<1.50)
A_{620}/A_{566} = 0.0017 (<0.0050)

Absorbance Spectrum:



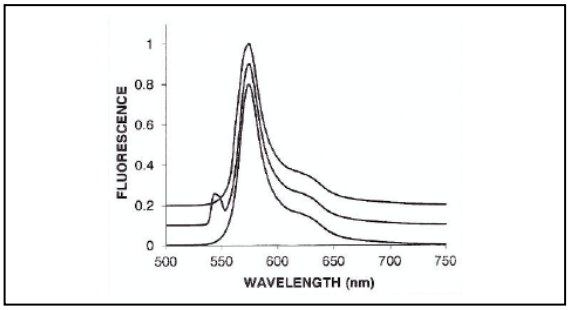
Peak location at 496 and 566 nm

1. Determined spectrophotometrically using extinction coefficient $E^{1\%}_{566}$ = 82.

Fluorescence:

Relative Quantum Yield = 3.20 (>2.50)

Fluorescence Emission Spectra:



Excitation λ:
565 nm (top)
545 nm (middle)
490 nm (bottom

Emission λ_{max}:
575 nm

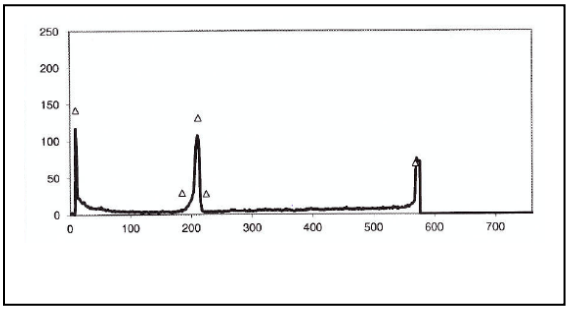
3832 Bay Center Place
Hayward, CA 94545-3619

TOLL FREE (800) 457-9444
PHONE (510) 638-6900
FAX (510) 638-6919

info@prozyme.com
www.prozyme.com

Electrophoresis:

RPE = >99.5% of stained protein (>98%)
High mw = 0.0% of stained protein (<0.1%)



Peak	Loc	Area	Area %
1	211	1031	100.0

Notes on Specifications:

A_{566}/A_{280} is indicative of the 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 (RPE). Absorbance at 566 nm reflects only the concentration of RPE.

A_{566}/A_{496} is indicative of the identity of the purified pigment; RPE has a strong secondary absorbance peak at 496 nm, where B-phycoerythrin (BPE) exhibits only a slight shoulder. An A_{566}/A_{496} <1.5 occurs only when a strong secondary peak is present, indicating that the pigment is RPE, and not significantly contaminated with BPE.

A_{620}/A_{566} is a rough indicator of the level of contamination with R-phycocyanin (RPC), although RPE exhibits a slight residual absorbance at 620 nm.

Relative quantum yield (RQY) is an indicator of the efficiency with which absorbed quanta are reradiated as fluorescence by RPE, normalized to the quantum efficiency of a standard compound, rhodamine 504. Rhodamine 504 is chosen as a standard because it absorbs and fluoresces in the same wavelength range as RPE. Passing values for this parameter indicate that the pigment is functionally intact. Fluorescence emission spectra shown are optically scanned from chart recorder output and scaled.

Purity measurements by native polyacrylamide gel electrophoresis (PAGE) assess the abundance of individual contaminating proteins. Gels are run with a 4% stacking gel and a 7.5% running gel. The limit of detection for contaminating protein with these gels is about 0.5% of the main band. ProZyme RPE has no significant contaminants by gel electrophoresis.

High molecular weight protein is that portion of stained protein that enters the stacking gel but does not pass through to the running gel and is thus accumulated at the interface. The discontinuity in the densitometer trace at the interface reflects changes in refractive index of the gel; no stained material is present.

Digitally signed by Shiva Pourkaveh
Date: 2019.05.14 15:43:01 -07'00'

Authorized Signature