

## SureLight® B-Phycoerythrin

### Product Specifications

**Item #:** D4-000

**Purity:**  $A_{545} / A_{280} > 5.5$   
 $A_{620} / A_{545} < 0.01$

> 98% single peak by HPLC  
 Emission peak 573 ±2 nm at  
 540 nm excitation

**Concentration:** > 10mg/ml

**Molecular Weight:** 240,000 Da

**Buffer and Stability:**

Product supplied as a 60% ammonium sulfate precipitate in 100 mM sodium phosphate buffer (pH 7.4), 100 mM NaCl and 2 mM sodium azide as a preservative. Product is stable for at least 1 year when stored properly (2-8°C in the dark).

**Do NOT FREEZE.**

### Spectral Characteristics

|                             |   |
|-----------------------------|---|
| Absorption maximum          | 545 nm  |
| Additional Absorption peaks | 563.5 nm  |
| Emission maximum            | 573 nm  |
| Extinction Coefficient (ε)  | 2.41 x 10 <sup>6</sup> M <sup>-1</sup> cm <sup>-1</sup> |
| Quantum Yield (QY)          | 0.98  |
| Brightness (ε x QY)         | 2.36 x 10 <sup>6</sup> M <sup>-1</sup> cm <sup>-1</sup> |

### Structural Characteristics

B-phycoerythrin (B-PE) is produced by certain red algae such as *Rhodella* sp. The particular spectral characteristics are a result of the composition of its subunits. B-PE is composed of at least three different subunits (sometimes more depending on the species of algae that produces it). The quaternary structure of the most common B-PE is (αβ)<sub>6</sub>γ. The α subunit has two phycoerythrobilins (PEB), the β subunit has 3 PEBs and the gamma subunit has 2 PEB and 2 phycourobilins (PUB).

### Applications for B-Phycoerythrin

Many applications and instruments were developed specifically for B-phycoerythrin. It is commonly used in immunoassays such as FACS, flow cytometry, and multimer/tetramer applications. With new instrumentation available, B-PE is also well suited for immunohistochemistry (IHC) and Luminex®.

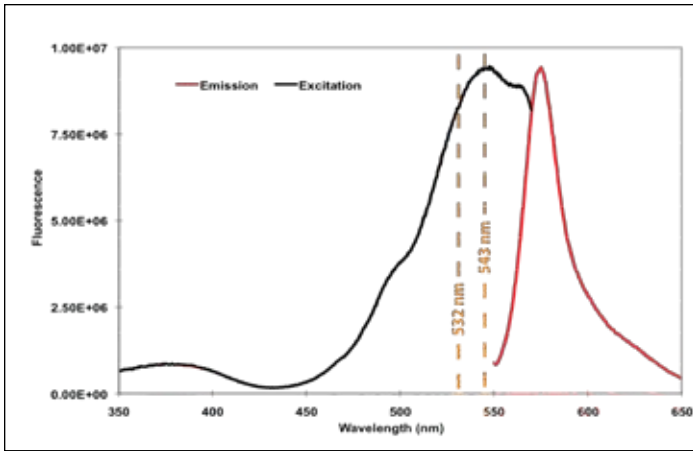
### Advantages of SureLight® B-Phycoerythrin

- **Biological variation is minimized** as Columbia Biosciences cultures all algae in a laboratory setting, under controlled conditions rather than in open ponds or harvesting from the sea.
- **No concerns with supply** interruptions due to adverse weather

#### **Best value**

- **No extra costs** from duties/tariffs
- **Overnight delivery**
- **Large lot sizes** (less time qualifying new material)

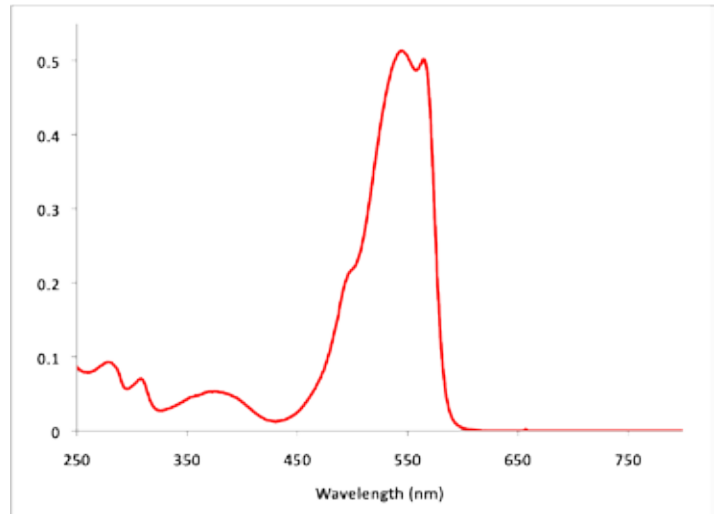
## Spectral profiles for SureLight® B-PE



Excitation and emission profiles for SureLight® B-PE. (Emission scan excitation wavelength at 540 nm.)

Compatible with:

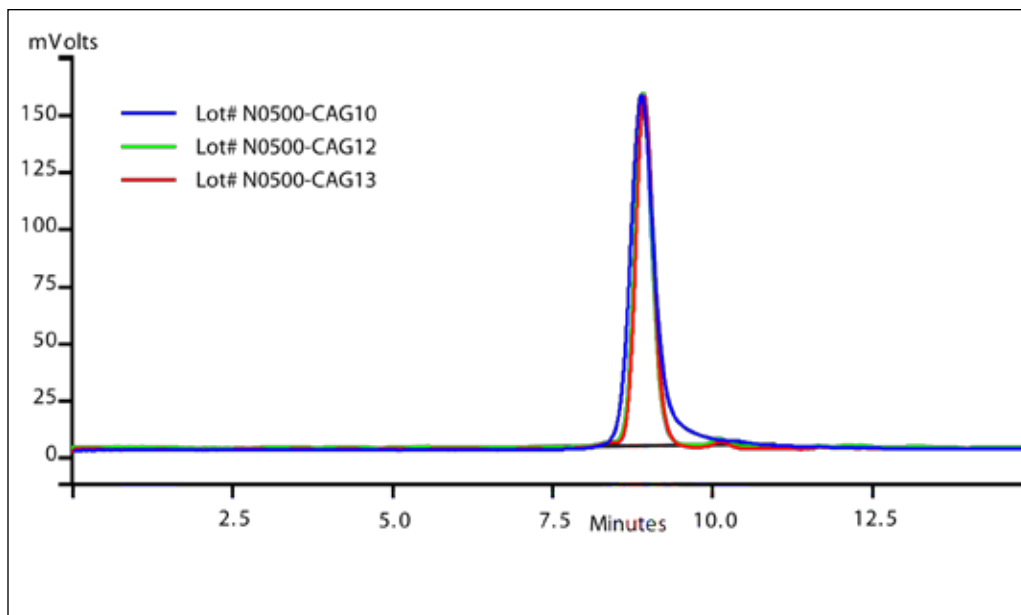
- 532 nm - Diode-Pumped Solid State (DPSS) Laser
- 543 nm - He/Ne Laser



Absorbance spectrum of SureLight® B-PE 100 mM sodium phosphate (pH 7.4) + 100 mM NaCl + 2 mM sodium azide.

## Consistency for Peace of Mind

Columbia Biosciences has complete control over the entire process of SureLight® B-PE production to ensure a uniform result time after time. Each batch of SureLight® B-PE is tested via HPLC, UV-Vis spectroscopy, and fluorescence excitation and emission spectroscopy.



HPLC chromatograms (280 nm absorbance) of sequential lots of SureLight® B-PE.

## References

MacColl, R. & Guard-Firar, D. Phycobiliproteins. CRC Press, Inc., Boca Raton, FL (1987)