

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 ⁶ M ⁻¹ cm ⁻¹
Quantum Yield (QY)	0.98
Brightness (ε x QY)	2.36 x 10 ⁶ M ⁻¹ cm ⁻¹

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)₆γ. 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®.

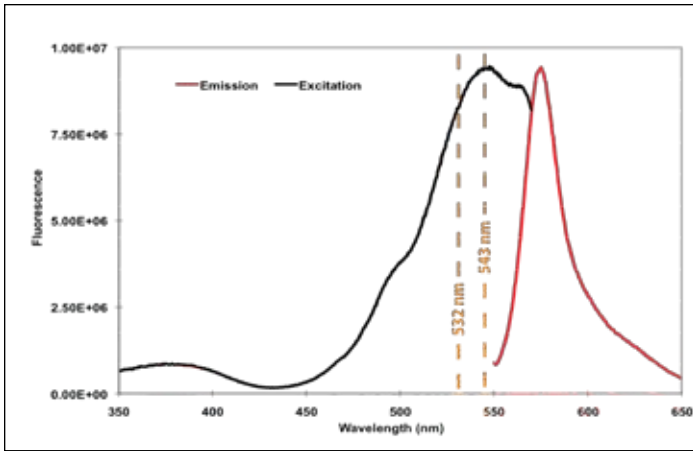
Advantages of SureLight® B-Phycoerythrin

- **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)

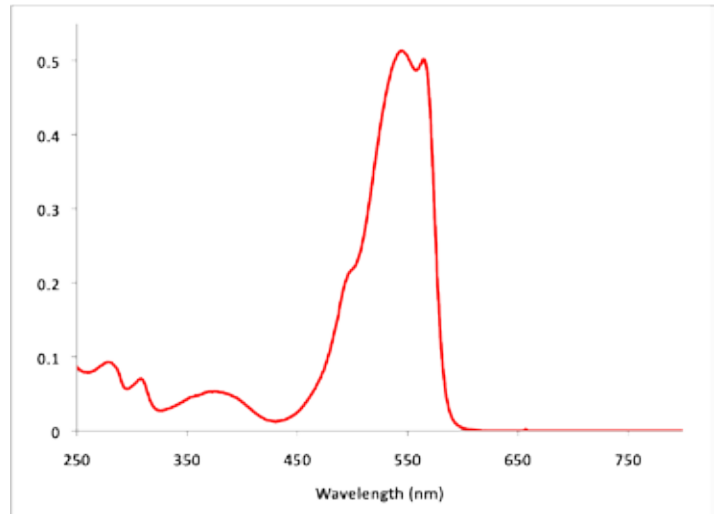
Spectral profiles for SureLight® B-PE



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

Compatible with:

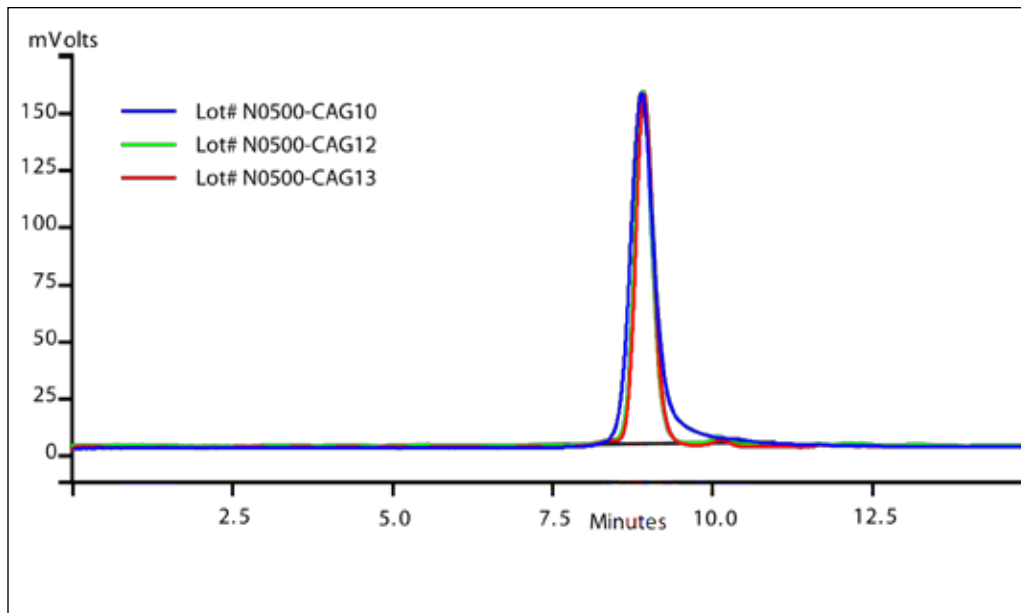
- 532 nm - Diode-Pumped Solid State (DPSS) Laser
- 543 nm - He/Ne Laser



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)