

SureLight® Allophycocyanin

Product Specifications

Item #: D3-000

Purity: $A_{650} / A_{280} > 4.5$

$A_{620} / A_{680} > 1.25$

> 98% single peak by HPLC

Emission peak 660 ± 3 nm at
650 nm excitation

Concentration: > 10mg/ml

Molecular Weight: 105,000 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	652 nm
Additional Absorption peaks	625 nm
Emission maximum	657.5 nm
Extinction Coefficient (ϵ)	$2.4 \times 10^5 \text{ M}^{-1}\text{cm}^{-1}$
Quantum Yield (QY)	0.68
Brightness ($\epsilon \times \text{QY}$)	$1.6 \times 10^5 \text{ M}^{-1}\text{cm}^{-1}$

Structural Characteristics

Allophycocyanin (APC) is produced by certain blue-green algae such as *Anabaena* sp. The particular spectral characteristics are a result of the composition of its subunits. APC is composed of at two different subunits (α and β) in which each subunit has a phycocyanobilin (PCB) chromophore. The quarternary structure of APC is $(\alpha\beta)_3$

Applications for Allophycocyanin

Many applications and instruments were developed specifically for Allophycocyanin. It is commonly used in immunoassays such as FACS, flow cytometry, and High Throughput Screening assays as an acceptor for Europium.

Advantages of SureLight® Allophycocyanin

- **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

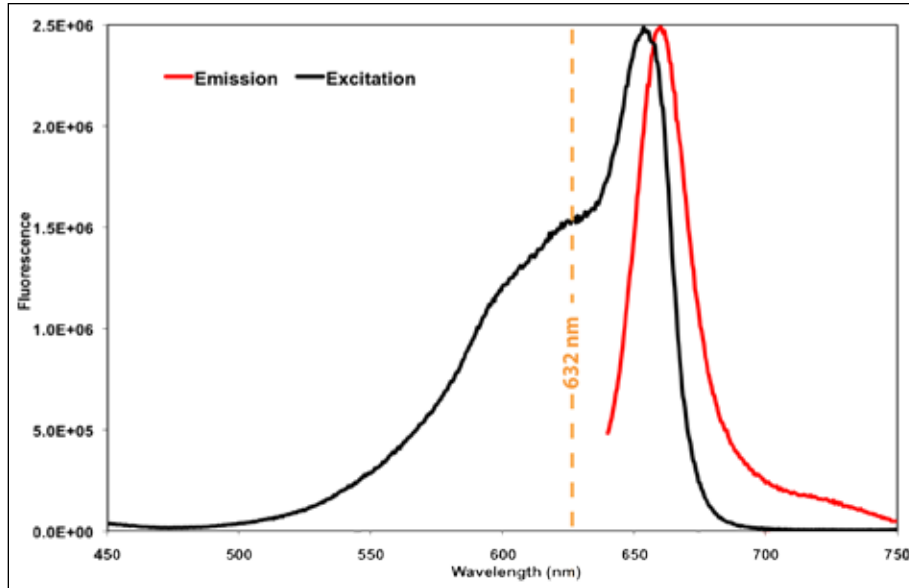
Best value

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

Consistency for Peace of Mind

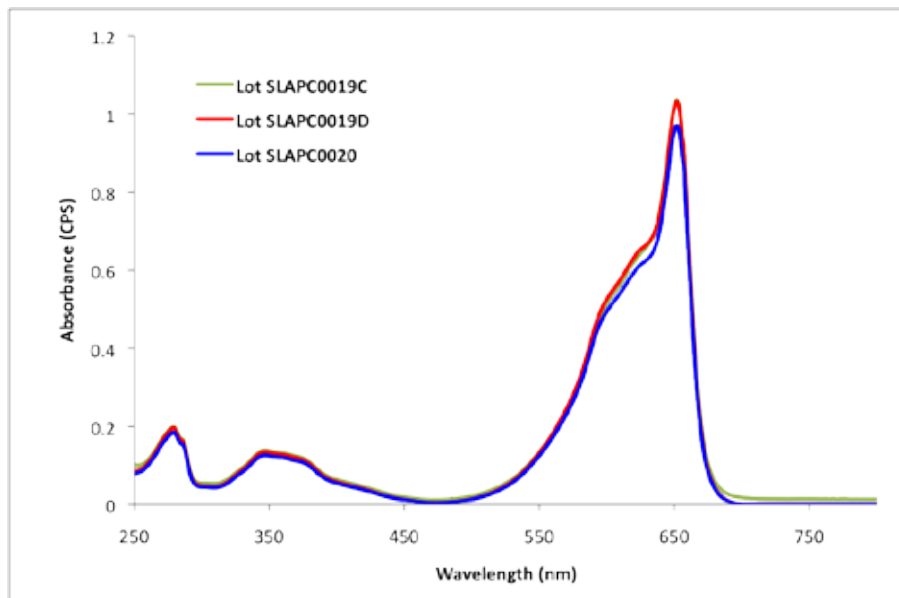
Columbia Biosciences has complete control over the entire process of SureLight® APC production to ensure a uniform result time after time. Each batch of SureLight® APC is tested via HPLC, UV-Vis spectroscopy, and fluorescence excitation and emission spectroscopy.

Spectral profiles for SureLight® APC



Excitation and emission profiles for SureLight® APC. (Emission scan excitation wavelength at 620 nm.)

Compatible with: • 632 nm - Helium/Neon (He/Ne) Laser



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

References

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