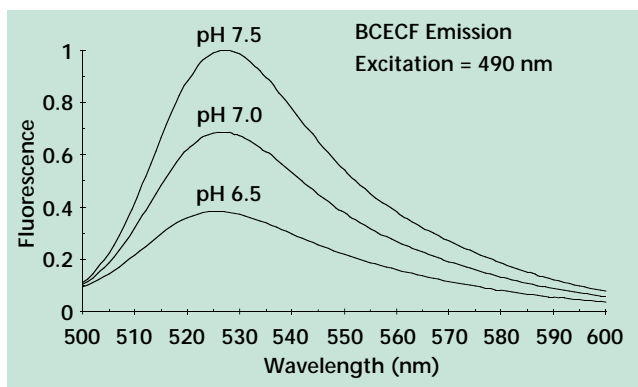




# New! BCECF pH Indicator for Measuring Intracellular pH



BCECF fluorescence emission changes as a function of pH.

## A Proven Method for Measuring Intracellular pH

Cellular dynamics of pH can be observed to study biological energy consumption, signal transduction and other fundamental physiological processes. Since its introduction in 1982 by Rink *et al*<sup>1</sup>, BCECF [2',7'-bis-(2-carboxyethyl)-5-(and-6)-carboxyfluorescein] has become the most widely used intracellular fluorescent pH indicator. BCECF is popular for measuring intracellular pH because it can be incorporated into intact living cells and responds sensitively to pH dynamics using a variety of optical instrumentation.

## BCECF is Designed for Optimal Performance at Physiological pH

- The fluorescence intensity of BCECF is proportional to the pH near its  $pK_a$  of 6.98, making it an excellent indicator over the physiological range of pH 6.5–7.5.

- The cell-permeant BCECF AM ester can be added to cell media for loading live cell populations. Intracellular esterases hydrolyze the esters, leaving BCECF with 4–5 negative charges, trapping the indicator inside the cell.
- BCECF free acid is not cell permeant and is used for making cell-free calibration curves or as an alternative to the AM ester and loaded into cells by microinjection or other methods.
- The BCECF pH indicator is compatible with all common fluorescence instrumentation that use fluorescein filters, including Ar-laser based confocal microscopy, flow cytometry and standard fluorescence microscopy and fluorometry.

## Applications of BCECF include

- $K^+/H^+$ ,  $Na^+/H^+$ ,  $Na^+/Ca^{+2}$  and  $Cl^-/HCO_3^-$  exchanges
- Lactate or  $NH_4^+$  transport
- Cytotoxicity
- Analysis of multi-drug resistance
- Apoptosis and much more

## Ordering Information

Catalog Number	Product Description
170-3146	BCECF AM, 1 mg
170-3147	BCECF Acid, 1 mg

## References

1. *J. Cell Biol.*, **95**, 189–196 (1982)