Biotium

Supplier of fluorescent and related biochemical reagents for life science research and drug discovery
Glowing Products for Science™

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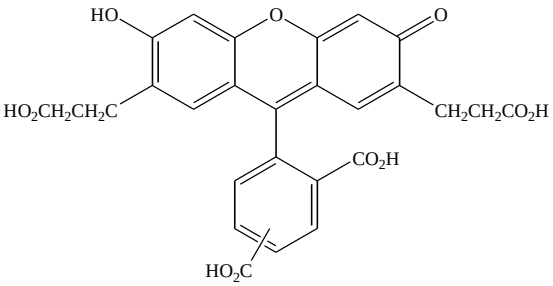
PRODUCT AND SAFETY DATA SHEET

PRODUCT NAME: **BCECF Acid**

CATALOG #: **51010**

MOLECULAR INFORMATION: $C_{27}H_{20}O_{11}$
MWt: 520.5
[85138-49-4]



PROPERTIES:

Color & Form	Yellow orange solid
Purity	≥ 95% by HPLC
Solubility	Soluble in water (pH>6)
Absorption/Emission	508 nm/530 nm
Extinction Coefficient	90,000

STORAGE AND HANDLING: Store desiccated at 4 °C upon receipt. Protect from light, especially when in solution.

APPLICATION: BCECF (full chemical name: 2′,7′-*bis*-(carboxyethyl)-5-(and-6)-carboxyfluorescein) is the most widely used fluorescent pH sensor. Because its pKa (6.97) is close to physiological pH, BCECF can detect cytosolic pH change with high sensitivity. At low pH, the dye is weakly fluorescent but becomes more fluorescent with increasing pH. The excitation spectrum of the dye undergoes a slight shift during pH change, while the wavelength of the emission maximum remains unchanged. The pH is determined ratiometrically by the relative fluorescent intensities at 535 nm when the dye is excited at 439 nm and 505 nm respectively. BCECF acid is membrane-impermeant and therefore has to be loaded into cells via microinjection or scrape loading (See **51011**, **BCECF/AM**).

Ref: 1) Kolber, M.A., et al. *J. Immunol. Meth.* **108**, 255(1988); 2) Carpenter, L., et al. *Biochem. J.* **304**, 751(1994); 3) Sellers, J.R. et al. *J. Immunol. Meth.* **172**, 255(1994).

TOXICITY: Unknown

FIRST AID: Potentially harmful. Avoid prolonged or repeated exposure. Avoid getting in eyes, on skin, or on clothing. Wash thoroughly after handling. If eye or skin contact occurs, wash affected areas with plenty of water for 15 minutes and seek medical advice. In case of inhaling or swallowing, move individual to fresh air and seek medical advice immediately.