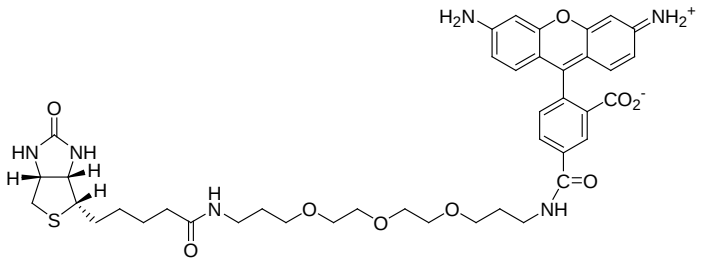
46117 Landing Parkway, Fremont, CA 94538 U.S.A.
Tel: 1-510-265-1027 Fax: 1-510-265-1352
www.biotium.com

PRODUCT AND SAFETY DATA SHEET

PRODUCT NAME: **Biotin rhodamine 110**

CATALOG #: **80022**

MOLECULAR INFORMATION: $C_{41}H_{50}N_6O_9$
S
MW: 802.94



PROPERTIES:

Color & Form	Orange red solid
Purity	≥ 90% by HPLC
Solubility	Soluble in DMSO or DMF
Absorption/Emission	509/525 nm
Extinction Coefficient	90,000

STORAGE AND HANDLING: Store desiccated at 4°C. Protect from light.

APPLICATION: Biotium developed biotin-rhodamine 110 as an alternative to biotin-4-fluorescein (#90062) and fluorescein biotin (#80019), both of which have been used for detection of biotin binding sites and the degree of biotinylation of proteins, and for the measurement of avidin and streptavidin in crude biofluids. In addition, biotin-rhodamine 110 can be used as a polar tracer to study the morphology of cells, similar to the use of Lucifer Yellow cadaverine biotin-X (#80017). The dye rhodamine 110 (or carboxyrhodamine 110) has absorption and emission wavelengths similar to those of fluorescein (See figure 1). However, the spectra and fluorescent quantum yield of rhodamine 110 are relatively unaffected by pH change (pH 4-9), whereas the fluorescence of fluorescein is significantly reduced at acidic pH. Moreover, rhodamine 110 is much more photostable than fluorescein (See Figure 2), making biotin-rhodamine 110 a better choice for studies where prolonged exposure to light may be necessary.

RELATED PRODUCTS *Biotin-4-fluorescein(#90062); Fluorescein biotin(#80019)*

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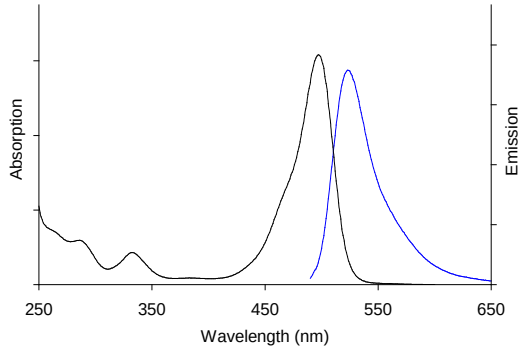

Figure 1. Absorption and emission spectra of CR110 and its derivatives in pH7 buffer

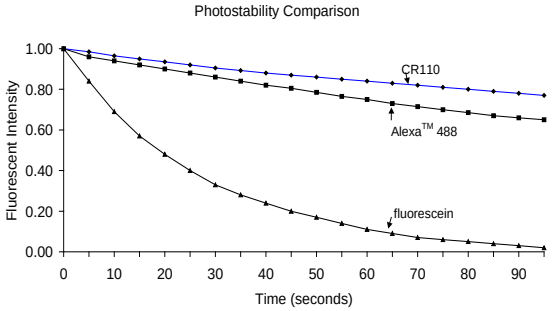

Figure 2. Photostability comparison of carboxyrhdamine 110-, fluorescein- and Alexa™ 488. Carboxyrhodamine 110 is more photostable than fluorescein and Alexa™ 488

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.