

Fluorescein biotin

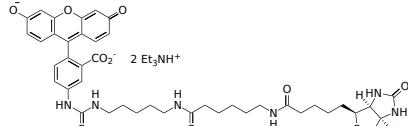
Catalog Number: 3017

Unit Size: 5 mg

Product Details

Storage Conditions	Freeze (< -15 °C), Minimize light exposure
Expiration Date	12 months upon receiving

Chemical Properties

Appearance	Solid orange
Molecular Weight	1033.39
Soluble In	DMSO
Chemical Structure	 The chemical structure shows fluorescein (a derivative of 4,5-dihydrophthalimide) linked via its 5-carbon to the 3-carbon of a biotin molecule. The fluorescein part consists of a 4,5-dihydrophthalimide core with a 2'-hydroxyphenyl group at the 5-position. The biotin part is a long-chain thiamine derivative with a terminal biotinyl group. The linkage is at the 3-position of the biotin thiazolidine ring. Two triethylammonium cations (2 Et ₃ N ⁺) are shown as counterions.

Spectral Properties

Excitation Wavelength	498 nm
Emission Wavelength	517 nm

Applications

This bifunctional biotin derivative is used for spectrophotometric determination of biotinylation degree. The assay is based on the kinetic analysis of the enhancement of fluorescence of streptavidin/fluorescein biotin complexes in the presence of biotin. The fluorescence enhancement of fluorescein biotin is proportional to the concentration of biotin. Because the assay is amenable for use in small volumes of 5-50 μ L or bead-based assays, the detection limits can be extended to the femtomole range. The dynamic aspects allow the assay to be extended to a broader range of applications including its use as an indicator of reagent mixing in laminar-flow assays carried out in microfluidic devices.