

Product Data Sheet

Product Name: BODIPY FL C5

Cat. No.: GC71766

Chemical Properties

Cas. No. 217075-24-6

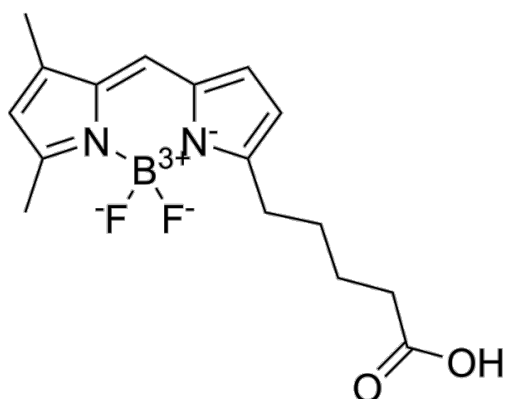
Formula $C_{16}H_{19}BF_2N_2O_2$ M.Wt 320.14

Solubility DMSO : ≥ 100 mg/mL (312.36 mM) Storage 4°C, protect from light

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure



Background

BODIPY FL C5 is a green fluorescent fatty acid. BODIPY FL C5 can be used as a precursor for the synthesis of various fluorescent phospholipids. BODIPY FL C5 is relatively insensitive to the environment and fluoresces in both water-soluble and lipid environments.

Guidelines (Following is our recommended protocol. This protocol only provides a guideline, and should be modified according to your specific needs).

A. Enzyme assays^[1]:

1. An aliquot of phospholipid was placed in a 1×1-cm fluorescence cuvette and buffer (50 mM Tris,

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pH 8, 100 mM NaCl, 1 mM CaCl_2) was added to a total volume of 1.3 mL. The temperature was allowed to equilibrate at 35°C with stirring for several minutes and the background emission was recorded (the background rate was undetectable). Enzyme (1-10 μL) was added and the emission was recorded.

2. An aliquot of phospholipid (78 μL of 0.05 mM substrate/0.5 mM DTPM) was placed in a 1×1-cm fluorescence cuvette and buffer (50 mM Tris, pH 8, 100 mM NaCl, 1 mM CaCl_2 , 30% glycerol) was added to a total volume of 1.3 mL. The temperature was allowed to equilibrate at 35°C with stirring for several minutes and the background emission was recorded (the background rate was undetectable). Enzyme (1-10 μL) was added with extra mixing of the viscous solution, and the emission was recorded.

3. A measured amount of BODIPYFL-C₅ (in the case of PBPEC6DNP and MBPEDNP) or BODIPY-FL-C₅-lyso-PAF (in the case of BC₁₁-DNPC₈-PC) was added to the phospholipid substrate solutions and the increase in emission was recorded. The factor, picomoles of BODIPY product/intensity unit increase, was then used to convert emission increase/sec to picomoles of product/second in the assays.

B. Zebrafish in vitro assay^[1]:

1. Embryos were placed in 0.15 mL of embryo medium (EM: 13.7 mM NaCl, 0.537 mM KCl, 0.025 mM Na_2HPO_4 , 0.044 mM KH_2PO_4 , 1.30 mM CaCl_2 , 1 mM MgSO_4 , 4.2 mM NaHCO_3 , pH 7.2) .
2. Containing 150-200 ng of a fluorescent phospholipid substrate, and sonicated for 2-5 s.
3. After 1 h at 37°C, reactions were stopped by the addition of 0.45 mL of chloroform: methanol (2:1), mixed, and centrifuged (30 s, 16,000g) .
4. The aqueous fraction was discarded and an aliquot of organic fraction was loaded on thin-layer chromatography plates.
5. Plates were developed in toluene: diethyl ether: ethanol: acetic acid (50:40:2:0.2) and quantified using a laser scanner.

References:

[1]. H S Hendrickson, et al. Intramolecularly quenched BODIPY-labeled phospholipid analogs in phospholipase A(2) and platelet-activating factor acetylhydrolase assays and in vivo fluorescence imaging. Anal Biochem. 1999 Dec 1;276(1):27-35.

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