Product Data Sheet

Product Name: Cy7 maleimide (non-sulfonated)
Cat. No.: GC17124

Chemical Properties

Cas. No.			
Chemical Name	6-[(2E)-3,3-dimethyl-2-[(2E)-2-[3-[(E)-2-(1,3,3-trimethylindol-1-ium-2-yl)ethenyl]cyclohex-2-en-1-ylidene]ethylidene]indol-1-yl]-N-[2-(2,5-dioxopyrrol-1-yl)ethyl]hexanamide		
SMILES	CC1(C2=CC=CC=C2[N+](=C1C=CC3=CC(=CC=C4C(C5=CC=CC=C5N4CCCCCC(=O)NCCN6C(=O)C=CC6=O)(C)C)CCC3)C)C		
Formula	$C_{43}H_{51}ClN_4O_3$	M.Wt	707.34
Solubility	soluble in organic solvents (DMSO, DMF, dichloromethane), low solubility in water	Storage	Store at -20°C, protect from light
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ 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	Cy7 maleimide (non-sulfonated)		

Background

Cy7 maleimide is a near-infrared, sulfhydryl reactive dye which has low aqueous solubility. This reagent can label the proteins contain free sulfhydryl groups. Labeled proteins thus obtained are used in NIR bioimaging applications. In tissues or in live organism, NIR imaging systems can be used to visualize distribution of labeled proteins. For biomolecule labeling, the labeling reagent has low aqueous solubility, using of organic co-solvent to dissolve this molecular is necessary for efficient reaction. First, Cyanine dye should be dissolved in organic solvent and then added to a solution of biomolecule in appropriate aqueous buffer.

In splenocytes, for ease of detection, P22 particles were labeled internally with Cy7-maleimide. P22-Cy7 alone or P22-Cy7 decorated with DecSelf was incubated with splenocytes at 37℃ to encourage phagocytosis [1].

Reference:

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[1]. Schwarz, B.; Madden, P.; Avera, J.; Gordon, B.; Larson, K.; Miettinen, H.; Uchida, M.; LaFrance, B.; Basu, G.; Rynda-Apple, A.; Douglas, T. Symmetry Controlled, Genetic Presentation of Bio-Active Proteins on the P22 Virus-Like Particle Using an External Decoration Protein. ACS Nano, 2015, 9(9), 9134–9147.

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