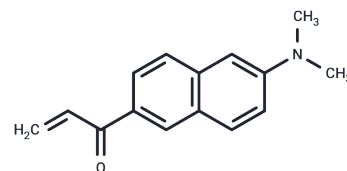


Acrylodan

Chemical Properties

CAS No. :	86636-92-2
Formula:	C ₁₅ H ₁₅ NO
Molecular Weight:	225.29
Appearance:	no data available
Storage:	keep away from direct sunlight Powder: -20°C for 3 years In solvent: -80°C for 1 year



Biological Description

Description	Acrylodan, when subjected to thiol reactions, exhibits sensitivity to the dipolarity and dynamics of its surrounding binding pocket, specifically those surrounding Cys 34.
In vitro	Guidelines recommend a protocol, which should be tailored to specific requirements, for the purification and labeling of Act1. Initially, a 20-fold molar excess of acrylodan (Anaspec) is mixed with polymerized actin and incubated on ice overnight. Following incubation, the actin-acrylodan mixture is centrifuged for 2 hours at 4°C and 100,000 × g. The resultant pellet is subsequently resuspended in a buffer containing 10 mM Tris (pH 7.5), 0.5 mM β-mercaptoethanol, 0.2 mM CaCl ₂ , and 50 μM ATP, and then dialyzed against the same buffer for 70 hours at 4 °C. The supernatant is collected, and the actin concentration along with the degree of labeling are determined using specific extinction coefficients for actin, acrylodan, and Alexa Fluor 488 at their respective wavelengths. The characterization reveals that Acrylodan-labeled Act1 (Acryl Act1 NAT) exhibits significantly distinct properties compared to EDTA-unfolded Acryl Act1 (Acryl Act1I3), the latter having an emission spectrum closely resembling that of CCT-bound Acryl Act1.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	4.4387 mL	22.1936 mL	44.3872 mL
5 mM	0.8877 mL	4.4387 mL	8.8774 mL
10 mM	0.4439 mL	2.2194 mL	4.4387 mL
50 mM	0.0888 mL	0.4439 mL	0.8877 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Reference

Sarah F Stuart, et al. A two-step mechanism for the folding of actin by the yeast cytosolic chaperonin. J Biol Chem. 2011 Jan 7;286(1):178-84.

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