

Product Name: Rf470DL

Catalog No.: 7406

Batch No.: 1

IUPAC Name: *N*⁶-[3-[6-[5-[2-Carboxy-2-cyanoethenyl]-2-thienyl]-3,4-dihydro-1(2*H*)-quinolinyl]-1-oxopropyl]-D-lysine hydrochloride

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₂₆H₃₀N₄O₅S.HCl.2³/₄H₂O

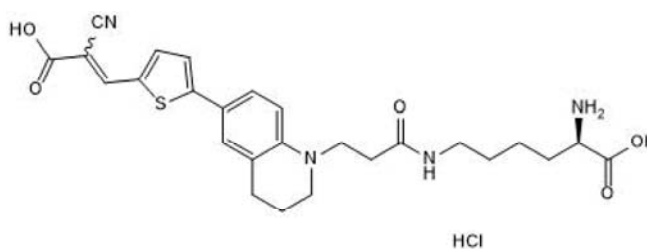
Batch Molecular Weight: 596.61

Physical Appearance: Red solid

Solubility: DMSO to 100 mM

Storage: Store at -20°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 94.6% purity

¹H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	52.34	6.17	9.39
Found	51.42	5.73	9.15

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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Description:

Rf470DL is a blue rotor-fluorogenic fluorescent D-amino acid for labeling peptidoglycans in live bacteria. Rf470DL fluoresces only when it becomes incorporated into the peptidoglycan, enabling no wash experiments. Excitation/emission λ ~470/620 nm; quantum yield = 0.042; extinction coefficient 33,106 M⁻¹ cm⁻¹ (measured in PBS containing 50% glycerol).

Physical and Chemical Properties:

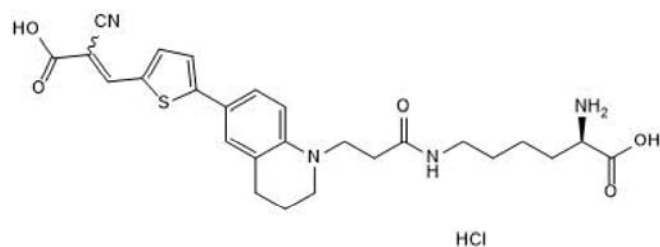
Batch Molecular Formula: C₂₆H₃₀N₄O₅S.HCl.2 $\frac{3}{4}$ H₂O

Batch Molecular Weight: 596.61

Physical Appearance: Red solid

Minimum Purity: ≥95%

Batch Molecular Structure:



Storage: Store at -20°C

CAUTION - This product is light sensitive and we recommend that the solid material and any solutions obtained are protected from exposure to light.

Solubility & Usage Info:

DMSO to 100 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

Licensing Information:

Sold under license from Indiana University. U.S. patent application number 16/967,874.

References:

Hsu *et al* (2019) Fluorogenic D-amino acids enable real-time monitoring of peptidoglycan biosynthesis and high-throughput transpeptidation assays. *Nat.Chem.* **11** 335. PMID: 30804500.

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