

Product Name: DMHBO+

Catalog No.: 7764

Batch No.: 1

CAS Number: 2322286-81-5

IUPAC Name: 4-(4-((Z)-4-Hydroxy-3,5-dimethoxybenzylidene)-2-((hydroxyimino)methyl)-5-oxo-4,5-dihydro-1H-imidazol-1-yl)-N,N,N-trimethylbenzenaminium iodide

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₂₂H₂₅IN₄O₅·1½H₂O

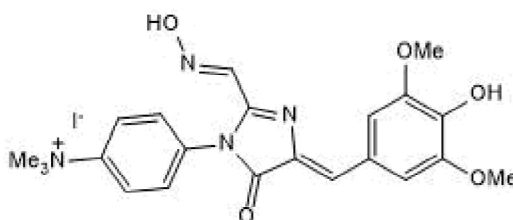
Batch Molecular Weight: 579.39

Physical Appearance: Orange solid

Solubility: DMSO to 50 mM

Storage: Store at -20°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 98.1% purity

¹H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	45.61	4.87	9.67
Found	44.79	4.77	9.29

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Description:

DMHBO+ is a cationic fluorophore. Its fluorescence is activated by binding to chili aptamer ($K_d = 12$ nM). Chili-DMHBO+ complex mimics red fluorescent proteins, suitable for imaging RNA in cells. It is an ideal FRET donor to the rhodamine dye Atto 590 and has applications in FRET-based analytical RNA systems. Excitation/emission maxima (λ) = 456/592 nm; quantum yield = 0.1; stokes shift = 136 nm.

Physical and Chemical Properties:

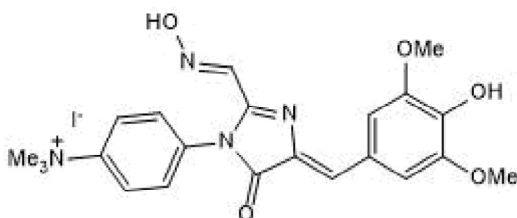
Batch Molecular Formula: $C_{22}H_{25}IN_4O_5 \cdot 1\frac{1}{2}H_2O$

Batch Molecular Weight: 579.39

Physical Appearance: Orange solid

Minimum Purity: $\geq 98\%$

Batch Molecular Structure:



Storage: Store at $-20^{\circ}C$

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 50 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 $45-60^{\circ}C$ water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. *Unless contradicted by product-specific protocols or instructions, our standard recommendations apply:

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 $-20^{\circ}C$ or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Steinmetzger *et al* (2019) A multicolor large stokes shift fluorogen-activating RNA aptamer with cationic chromophores. *Chemistry* **25** 1931. PMID: 30485561.

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