

Product Name: DFHO

Catalog No.: 6434

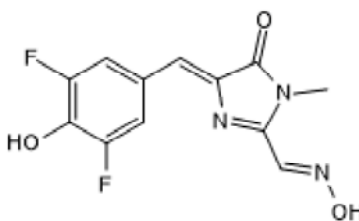
Batch No.: 1

CAS Number: 1420815-34-4

IUPAC Name: 4-(3,5-Difluoro-4-hydroxybenzylidene)-1-methyl-5-oxo-4,5-dihydro-1*H*-imidazole-2-carbaldehyde oxime

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₁₂H₉F₂N₃O₃
Batch Molecular Weight: 281.22
Physical Appearance: Orange solid
Solubility: DMSO to 100 mM
Storage: Store at -20°C
Batch Molecular Structure:



2. ANALYTICAL DATA

TLC: R_f = 0.32 (Ethyl acetate:Petroleum ether [1:1])
HPLC: Shows 99.5% purity
¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	51.25	3.23	14.94
Found	51.28	3.23	14.8

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

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Description:

DFHO is a mimic of red fluorescent protein (RFP) fluorophore for imaging RNA in living cells. DFHO fluorescence is activated by binding to Corn aptamer ($K_d = 70$ nM) or Squash aptamer ($K_d = 54$ nM). Excitation/emission maxima (λ) = 505/545 nm; extinction coefficient = 29000 M⁻¹ cm⁻¹.

Physical and Chemical Properties:

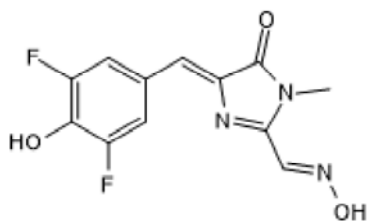
Batch Molecular Formula: C₁₂H₉F₂N₃O₃

Batch Molecular Weight: 281.22

Physical Appearance: Orange solid

Minimum Purity: ≥98%

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.

References:

Dey et al (2022) Repurposing an adenine riboswitch into a fluorogenic imaging and sensing tag. *Nat.Chem.Biol.* **18** 180. PMID: 34937909.

Truong et al (2022) The fluorescent aptamer Squash extensively repurposes the adenine riboswitch fold. *Nat.Chem.Biol.* **18** 191. PMID: 34937911.

Song et al (2017) Imaging RNA polymerase III transcription using a photostable RNA-fluorophore complex. *Nat.Chem.Biol.* **13** 1187. PMID: 28945233.

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