

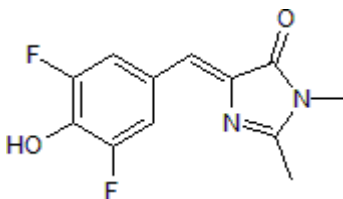
## Certificate of Analysis

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**Product Name:** DFHBI **Catalog No.:** 5609 **Batch No.:** 1  
**CAS Number:** 1241390-29-3  
**IUPAC Name:** (5Z)-5-[(3,5-Difluoro-4-hydroxyphenyl)methylene]-3,5-dihydro-2,3-dimethyl-4H-Imidazol-4-one

### 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>12</sub>H<sub>10</sub>F<sub>2</sub>N<sub>2</sub>O<sub>2</sub>  
**Batch Molecular Weight:** 252.22  
**Physical Appearance:** Yellow solid  
**Solubility:** DMSO to 100 mM  
 ethanol to 5 mM with gentle warming  
**Storage:** Store at -20°C  
**Batch Molecular Structure:**



### 2. ANALYTICAL DATA

**TLC:** R<sub>f</sub> = 0.47 (Chloroform:Methanol [9:1])  
**HPLC:** Shows >99.9% purity  
**<sup>1</sup>H NMR:** Consistent with structure  
**Mass Spectrum:** Consistent with structure  
**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	57.14	4	11.11
Found	57.38	3.91	11.08

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

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**Description:**

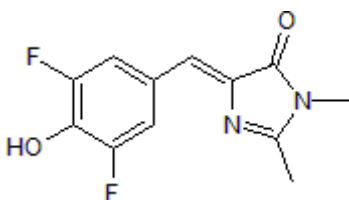
Mimic of green fluorescent protein (GFP) fluorophore for imaging RNA in living cells. Fluorescence is activated by binding to Spinach2 or Broccoli aptamers. Exhibits peak excitation maxima of 447 nm and peak fluorescence emission of 501 nm when bound to Spinach2.

**Physical and Chemical Properties:**

Batch Molecular Formula: C<sub>12</sub>H<sub>10</sub>F<sub>2</sub>N<sub>2</sub>O<sub>2</sub>  
 Batch Molecular Weight: 252.22  
 Physical Appearance: Yellow 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  
 ethanol to 5 mM with gentle warming

**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:**

- Paige et al** (2011) RNA mimics of green fluorescent protein. *Science* **333** 642. PMID: 21798953.  
**Strack et al** (2014) Using Spinach-based sensors for fluorescence imaging of intracellular metabolites and proteins in living bacteria. *Nat.Protoc.* **9** 146. PMID: 24356773.  
**Song et al** (2014) Plug-and-play fluorophores extend the spectral properties of Spinach. *J.Am.Chem.Soc.* **136** 198. PMID: 24393009.  
**Filonov et al** (2015) In-gel imaging of RNA processing using broccoli reveals optimal aptamer expression strategies. *Chem.Biol.* **22** 649. PMID: 26000751.

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