1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: \( \text{C}_{13}\text{H}_{9}\text{F}_{5}\text{N}_{2}\text{O}_{2} \)

Batch Molecular Weight: 320.21

Physical Appearance: Yellow solid

Solubility: DMSO to 100 mM

Store at -20°C

2. ANALYTICAL DATA

TLC: \( R_f = 0.46 \) (Dichloromethane: Methanol [9:1])

HPLC: Shows >99.6% purity

\(^1\text{H NMR:} \) Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

<table>
<thead>
<tr>
<th></th>
<th>Carbon</th>
<th>Hydrogen</th>
<th>Nitrogen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theoretical</td>
<td>48.76</td>
<td>2.83</td>
<td>8.75</td>
</tr>
<tr>
<td>Found</td>
<td>48.95</td>
<td>2.78</td>
<td>8.49</td>
</tr>
</tbody>
</table>
**Product Name:** DFHBI 1T  
**Catalog No.:** 5610  
**Batch No.:** 3

**CAS Number:** 1539318-36-9  
**IUPAC Name:** (5Z)-5-[(3,5-Difluoro-4-hydroxyphenyl)methylene]-3,5-dihydro-2-methyl-3-(2,2,2-trifluoroethyl)-4H-imidazol-4-one

**Description:**
Mimic of green fluorescent protein (GFP) fluorophore for imaging RNA in living cells. Fluorescence activated by binding to Spinach2 or Broccoli aptamers. Exhibits peak excitation maxima of 482 nm and peak fluorescence emission of 505 nm when bound to Spinach2, enabling imaging with GFP filter cubes. Exhibits higher specific fluorescence and lower background fluorescence when bound to Spinach2 compared with Spinach2-DFHBI.

**Physical and Chemical Properties:**
- **Batch Molecular Formula:** C_{13}H_{9}F_{3}N_{2}O_{2}
- **Batch Molecular Weight:** 320.21
- **Physical Appearance:** Yellow solid
- **Minimum Purity:** >98%

**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 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°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:**