

**Product Name:** BI dihydrochloride

**Catalog No.:** 7466

**Batch No.:** 1

CAS Number: 2758438-31-0

IUPAC Name: (5Z)-3-(1H-Benzimidazol-7-ylmethyl)-5-[(3,5-difluoro-4-hydroxyphenyl)methylene]-3,5-dihydro-2-methyl-4H-imidazol-4-one dihydrochloride

## 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>19</sub>H<sub>14</sub>F<sub>2</sub>N<sub>4</sub>O<sub>2</sub>·2HCl·1½H<sub>2</sub>O

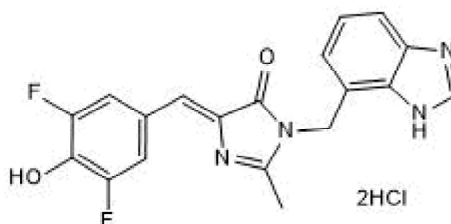
**Batch Molecular Weight:** 468.28

**Physical Appearance:** Yellow solid

**Solubility:** water to 100 mM  
DMSO to 50 mM

**Storage:** Store at -20°C

**Batch Molecular Structure:**



## 2. ANALYTICAL DATA

**HPLC:** Shows 100% purity

**<sup>1</sup>H NMR:** Consistent with structure

**Mass Spectrum:** Consistent with structure

**Microanalysis:**

	Carbon	Hydrogen	Nitrogen	Chlorine
Theoretical	48.73	4.09	11.96	15.14
Found	49.09	3.73	11.87	14.61

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

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**1**

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**Description:**

BI is a DFHBI derivative for imaging of RNA in cells. BI increases brightness and photostability of Broccoli aptamers in cells. BI enables imaging of single Broccoli-tagged mRNAs in living cells. BI exhibits peak excitation of 470 nm and peak fluorescence emission of 505 nm when bound to Broccoli. BI exhibits higher affinity for Broccoli aptamers and a 10.5-fold increase in cellular fluorescence compared with DFHBI-1T (Cat. No. 5610) ( $K_D$  values are 51 and 305 nM, respectively).

**Physical and Chemical Properties:**

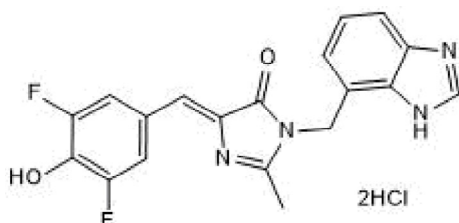
Batch Molecular Formula:  $C_{19}H_{14}F_2N_4O_2 \cdot 2HCl \cdot 1\frac{1}{2}H_2O$

Batch Molecular Weight: 468.28

Physical Appearance: Yellow 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:**

water to 100 mM

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.

**Licensing Information:**

Sold under license from Lucerna

**References:**

Li *et al* (2020) Fluorophore promoted RNA folding and photostability enables imaging of single Broccoli-tagged mRNAs in live mammalian cells. *Angew.Chem.Int.Ed.Engl.* **59** 4511. PMID: 31850609.

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