bio-techne
TOCRIS

Print Date: May 19th 2023

Certificate of Analysis

www.tocris.com

Product Name: **TBI** **Catalog No.: 7660** **Batch No.: 1**

CAS Number: 2863639-29-4

IUPAC Name: (*Z*)-3-((1*H*-Benzo[*d*]imidazol-4-yl)methyl)-5-(3,5-difluoro-4-hydroxybenzylidene)-2-thioxoimidazolidin-4-one

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{18}H_{12}F_2N_4O_2S$

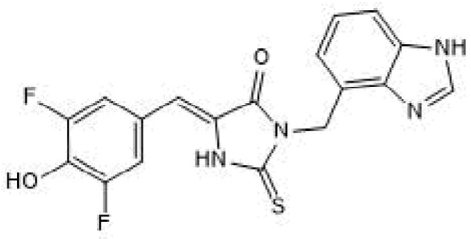
Batch Molecular Weight: 386.38

Physical Appearance: Orange solid

Solubility: DMSO to 20 mM

Storage: Store at -20°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.1% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	55.96	3.13	14.5
Found	55.57	3.02	14.3

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Description:

TBI is a DFHBI derivative for imaging of single Broccoli-tagged mRNA in cells. Excitation and emission maxima (λ) when bound to Broccoli are 485 and 527 nm, respectively. TBI shows higher affinity for Broccoli aptamers compared with DFHBI-1T (Cat. No. 5610) (K_D values are 71 and 305 nM, respectively). Extinction coefficient = 35,100 M^{-1} cm^{-1}.

Physical and Chemical Properties:

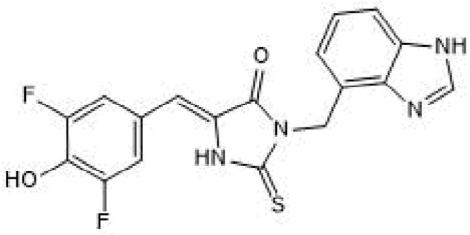
Batch Molecular Formula: $C_{18}H_{12}F_2N_4O_2S$

Batch Molecular Weight: 386.38

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 20 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.

Licensing Information:

Sold under license from Lucerna

References:

Li *et al* (2021) Engineering fluorophore recycling in a fluorogenic RNA aptamer. Angew.Chem.Int.Ed.Engl. ***60*** 24153. PMID: 34490956.

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