bio-techne
TOCRIS

Print Date: Oct 9th 2023

Certificate of Analysis

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Product Name: **TBIA** **Catalog No.: 7788** **Batch No.: 1**

IUPAC Name: 1,6-Dihydrobenzo[1,2-*d*:4,5-*d*']bis([1,3]oxazine)-2,4,7,9-tetraone

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{10}H_4N_2O_6$

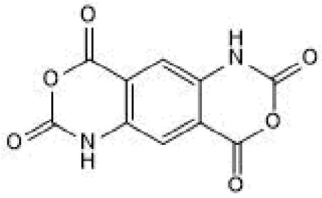
Batch Molecular Weight: 248.15

Physical Appearance: Yellow solid

Solubility: DMSO to 20 mM

Storage: Store at -20°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 97.3% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

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IUPAC Name: 1,6-Dihydrobenzo[1,2-*d*:4,5-*d*']bis([1,3]oxazine)-2,4,7,9-tetraone

Description:

TBIA (trans-bis-isatoic anhydride) is a bifunctional SHAPE (selective 2'-hydroxyl acylation analyzed by primer extension) chemical cross-linking reagent. TBIA has two electrophilic isatoic anhydride moieties, both of which can react with the 2'-OH group in nucleotides adjacent to and distant from the primary RNA sequence. TBIA is used in SHAPE-JuMP (-juxtaposed merged pairs) a technique for exploring RNA tertiary structure proximity on large RNAs, and higher-order RNA-RNA interactions at nanometer resolution.

Physical and Chemical Properties:

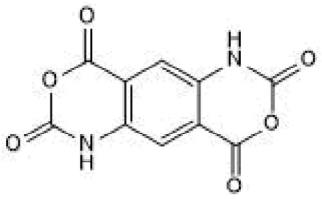
Batch Molecular Formula: $C_{10}H_4N_2O_6$

Batch Molecular Weight: 248.15

Physical Appearance: Yellow solid

Minimum Purity: ≥95%

Batch Molecular Structure:



Storage: Store at -20°C

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. *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°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Christy *et al* (2021) Direct mapping of higher-order RNA interactions by SHAPE-JuMP. Biochemistry ***60*** 1971. PMID: 34121404.