bio-techne
TOCRIS

Print Date: Oct 20th 2023

Certificate of Analysis

www.tocris.com

Product Name: **Tricyclic cytosine tC** **Catalog No.: 7814** **Batch No.: 1**

CAS Number: 1174063-74-1

IUPAC Name: 3-β-D-Ribofuranosyl-1*H*-pyrimido[5,4-*b*][1,4]benzothiazin-2(3*H*)-one

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{15}H_{15}N_3O_5S$

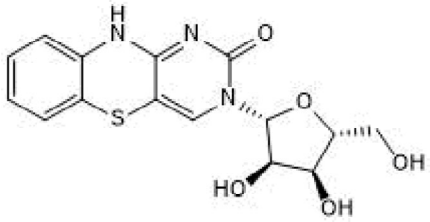
Batch Molecular Weight: 349.36

Physical Appearance: Yellow solid

Solubility: DMSO to 100 mM

Storage: Store at -20°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 98.4% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

UV Spectrum: Consistent with structure

λ_{max}: 380 nm (PBS)

λ_{ex}: 378 nm (PBS)

λ_{em}: 505 nm (PBS)

bio-techne.com
info@bio-techne.com
techsupport@bio-techne.com

North America
Tel: (800) 343 7475

China
info.cn@bio-techne.com
Tel: +86 (21) 52380373

Europe Middle East Africa
Tel: +44 (0)1235 529449

Rest of World
www.tocris.com/distributors
Tel:+1 612 379 2956

Product Name: **Tricyclic cytosine tC** **Catalog No.: 7814** **1**

CAS Number: 1174063-74-1

IUPAC Name: 3-β-D-Ribofuranosyl-1*H*-pyrimido[5,4-*b*][1,4]benzothiazin-2(3*H*)-one

Description:

Tricyclic cytosine tC is a fluorescent cytosine analog for imaging RNA in living cells. Enables the investigation of RNA synthesis, degradation, and trafficking at single-cell resolution when combined with confocal imaging. Suitable for use in TR-FRET. Excitation/emission maxima (λ) = 375/505 nm; extinction coefficient = 4000 M^{-1} cm^{-1}; quantum yield = 0.2.

Physical and Chemical Properties:

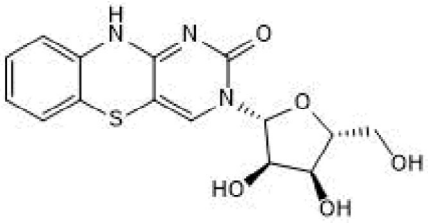
Batch Molecular Formula: $C_{15}H_{15}N_3O_5S$

Batch Molecular Weight: 349.36

Physical Appearance: Yellow solid

Minimum Purity: ≥95%

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

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:

Wang *et al* (2022) Live-cell RNA imaging with metabolically incorporated fluorescent nucleosides. J.Am.Chem.Soc. ***144*** 14647. PMID: 35930766.

Stengel *et al* (2010) Incorporation of the fluorescent ribonucleotide analogue tCTP by T7 RNA polymerase. Anal.Chem. ***82*** 1082. PMID: 20067253.

Sandin *et al* (2005) Fluorescent properties of DNA base analogue tC upon incorporation into DNA--negligible influence of neighbouring bases on fluorescence quantum yield. Nucleic Acids Res. ***33*** 5019. PMID: 16147985.

bio-techne.com
info@bio-techne.com
techsupport@bio-techne.com

North America
Tel: (800) 343 7475

China
info.cn@bio-techne.com
Tel: +86 (21) 52380373

Europe Middle East Africa
Tel: +44 (0)1235 529449

Rest of World
www.tocris.com/distributors
Tel:+1 612 379 2956