

**Product Name:** preQ<sub>1</sub>-biotin

**Catalog No.:** 7804

**Batch No.:** 1

**IUPAC Name:** *N*-(6-(((2-Amino-4-oxo-4,7-dihydro-3*H*-pyrrolo[2,3-*d*]pyrimidin-5-yl)methyl)amino)hexyl)-5-((3*aS*,4*S*,6*aR*)-2-oxohexahydro-1*H*-thieno[3,4-*d*]imidazol-4-yl)pentanamide

## 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>23</sub>H<sub>36</sub>N<sub>8</sub>O<sub>3</sub>S.1½H<sub>2</sub>O

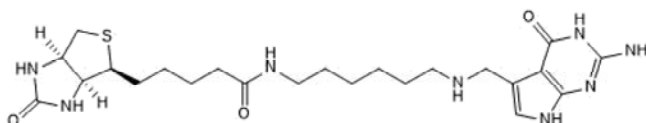
**Batch Molecular Weight:** 531.67

**Physical Appearance:** White solid

**Solubility:** DMSO to 20 mM  
ethanol to 5 mM

**Storage:** Store at -20°C

**Batch Molecular Structure:**



## 2. ANALYTICAL DATA

**HPLC:** Shows 96.5% purity

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

**Mass Spectrum:** Consistent with structure

**Microanalysis:**

	Carbon Hydrogen Nitrogen		
Theoretical	51.96	7.39	21.08
Found	51.72	7.05	20.53

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1

**IUPAC Name:** N-(6-(((2-Amino-4-oxo-4,7-dihydro-3H-pyrrolo[2,3-d]pyrimidin-5-yl)methyl)amino)hexyl)-5-((3aS,4S,6aR)-2-oxohexahydro-1H-thieno[3,4-d]imidazol-4-yl)pentanamide

**Description:**

preQ<sub>1</sub>-biotin is a modified analog of the natural substrate prequeosine1 (preQ1) and is used for RNA-TAG (transglycosylation at guanosine) and DNA-TAG. preQ<sub>1</sub>-biotin enables affinity tagging and pull-down of specific RNAs that have been modified selectively by E. coli tRNA guanine transglycosylase (TGT). preQ<sub>1</sub>-biotin is incorporated site-specifically and covalently into RNAs containing a short harpin nucleotide recognition motif. The guanine in a UGU recognition element is exchanged with the preQ<sub>1</sub>-biotin substrate. Plasmids for expression of the E.coli TGT enzyme (#138201) and for cloning an RNA of interest into a vector containing the recog... Please see product specific page on www.tocris.com for full description.

**Physical and Chemical Properties:**

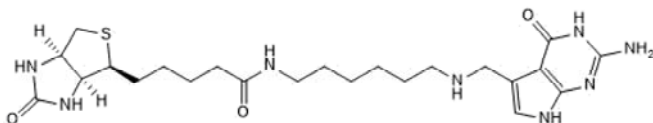
Batch Molecular Formula: C<sub>23</sub>H<sub>36</sub>N<sub>8</sub>O<sub>3</sub>S.1½H<sub>2</sub>O

Batch Molecular Weight: 531.67

Physical Appearance: White solid

**Minimum Purity:** ≥95%

**Batch Molecular Structure:**



**References:**

**Tota and Devaraj** (2023) Site-specific covalent labeling of DNA substrates by an RNA transglycosylase. *J. Am. Chem. Soc.* **145** 8099. PMID: 36988146.

**Busby et al** (2020) Enzymatic RNA biotinylation for affinity purification and identification of RNA-protein interactions. *ACS Chem. Biol.* **15** 2247. PMID: 32706237.

**Storage:** Store at -20°C

**Solubility & Usage Info:**

DMSO to 20 mM

ethanol to 5 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 The Regents of the University of California.

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