

**Product Name:** Tobramycin

**Catalog No.:** 5390

**Batch No.:** 1

CAS Number: 32986-56-4

IUPAC Name: O-3-Amino-3-deoxy- $\alpha$ -D-glucopyranosyl-(1-6)-O-[2,6-diamino-2,3,6-trideoxy- $\alpha$ -D-ribohexopyranosyl-(1-4)]-2-deoxy-D-streptomine

## 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:**  $C_{18}H_{37}N_5O_9 \cdot 1\frac{1}{2}H_2O$

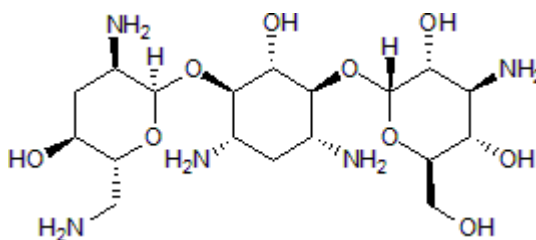
**Batch Molecular Weight:** 494.54

**Physical Appearance:** White solid

**Solubility:** water to 100 mM

**Storage:** Store at +4°C

**Batch Molecular Structure:**



## 2. ANALYTICAL DATA

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

**Mass Spectrum:** Consistent with structure

**Optical Rotation:**  $[\alpha]_D = +131.2$  (Concentration = 4, Solvent = Water)

**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	43.72	8.15	14.16
Found	43.61	8.23	14.15

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**Description:**

Aminoglycoside antibiotic. Exhibits antibacterial activity against strains of Enterobacteriaceae, Pseudomonas and Staphylococcus aureus. Shown to protect lung epithelial cells in vitro against injury from cystic fibrosis bronchial secretions and H<sub>2</sub>O<sub>2</sub>.

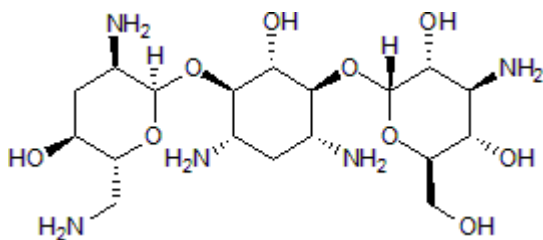
**Physical and Chemical Properties:**

Batch Molecular Formula: C<sub>18</sub>H<sub>37</sub>N<sub>5</sub>O<sub>9</sub> · 1½H<sub>2</sub>O

Batch Molecular Weight: 494.54

Physical Appearance: White solid

**Batch Molecular Structure:**



**Storage:** Store at +4°C

**Solubility & Usage Info:**

water 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. 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.

**References:**

**Dienstag and Neu** (1972) In vitro studies of tobramycin, an aminoglycoside antibiotic. Antimicrob.Agents Chemother. **1** 41. PMID: 4670427.

**Cantin and Woods** (1993) Protection by antibiotics against myeloperoxidase-dependent cytotoxicity to lung epithelial cells in vitro. . PMID: 8380814.

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