

Certificate of Analysis

Product Name: Banoxantrone dihydrochloride

Catalog No.: 4219

Batch No.: 1

CAS Number: 252979-56-9

IUPAC Name: 1,4-Bis[[2-(dimethyloxidoamino)ethyl]amino]-5,8-dihydroxy-9,10-anthracenedione dihydrochloride

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{22}H_{28}N_4O_6 \cdot 2HCl \cdot \frac{1}{4}H_2O$

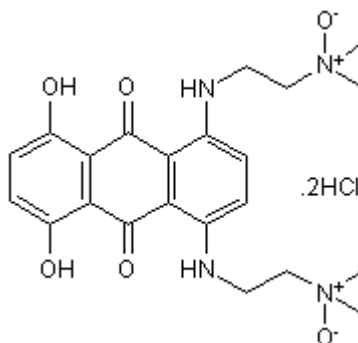
Batch Molecular Weight: 521.9

Physical Appearance: Dark blue solid

Solubility: water to 50 mM
DMSO to 25 mM

Storage: Store at +4°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 98.1% purity

¹H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	50.63	5.89	10.73
Found	50.57	6.14	10.71

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

Product Name: Banoxantrone dihydrochloride

Catalog No.: 4219

Batch No.: 1

CAS Number: 252979-56-9

IUPAC Name: 1,4-Bis[[2-(dimethyloxidoamino)ethyl]amino]-5,8-dihydroxy-9,10-anthracenedione dihydrochloride

Description:

Bioreductive prodrug; activated by hypoxia to yield the topoisomerase II inhibitor AQ4. Displays little to no cytotoxic activity against 60 tumor cell lines tested under oxic conditions ($IC_{50} > 100 \mu M$). Exhibits anti-tumor efficacy in vivo when combined with oxic cell cytotoxins; enhances the anti-tumor effect of cyclophosphamide (Cat. No. 4091) in a mouse tumor model.

Physical and Chemical Properties:

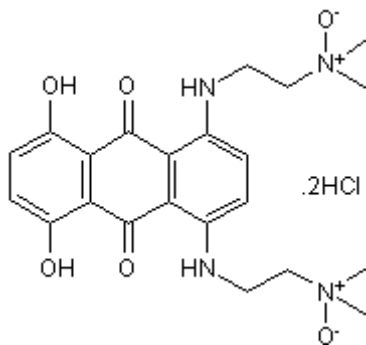
Batch Molecular Formula: $C_{22}H_{28}N_4O_6 \cdot 2HCl \cdot \frac{1}{4}H_2O$

Batch Molecular Weight: 521.9

Physical Appearance: Dark blue solid

Minimum Purity: >98%

Batch Molecular Structure:



References:

Friery et al (2000) Enhancement of the anti-tumour effect of cyclophosphamide by the bioreductive drugs AQ4N and tirapazamine. *Br.J.Cancer* **82** 1469. PMID: 10780528.

Patterson and McKeown (2000) AQ4N: a new approach to hypoxia-activated cancer chemotherapy. *Br.J.Cancer* **83** 1589. PMID: 11104551.

Mehibel et al (2009) Effects of cytokine-induced macrophages on the response of tumor cells to banoxantrone (AQ4N). *Mol.Cancer Ther.* **8** 1261. PMID: 19435866.

Storage: Store at +4°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:

water to 50 mM

DMSO to 25 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.

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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