TOCRIS
a bio-techne brand

Print Date: May 4th 2022

Certificate of Analysis

www.tocris.com

Product Name: **Dexrazoxane hydrochloride** **Catalog No.: 3857** **Batch No.: 2**

CAS Number: 1263283-43-7

IUPAC Name: 4-[(2*S*)-2-(3,5-Dioxopiperazin-1-yl)propyl]piperazine-2,6-dione hydrochloride

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{11}H_{16}N_4O_4.HCl.H_2O$

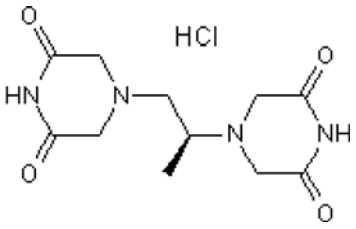
Batch Molecular Weight: 322.75

Physical Appearance: Off White solid

Solubility: water to 100 mM
DMSO to 100 mM

Storage: Desiccate at RT

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.1% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Optical Rotation: $[\alpha]_D$ = +46.4 (Concentration = 1, Solvent = Water)

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	40.94	5.93	17.36
Found	40.96	5.9	17.3

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: **Dexrazoxane hydrochloride** **Catalog No.: 3857** **Batch No.: 2**

CAS Number: 1263283-43-7

IUPAC Name: 4-[(2*S*)-2-(3,5-Dioxopiperazin-1-yl)propyl]piperazine-2,6-dione hydrochloride

Description:

Dexrazoxane hydrochloride is a topoisomerase II inhibitor and intracellular ion chelator. Bridges and stabilizes an interface between two ATPase promoters to inhibit topoisomerase II activity. Cardioprotective when co-administered with doxorubicin; decreases formation of reactive oxygen species (ROS) and activates the PI3K/Akt survival pathway.

Physical and Chemical Properties:

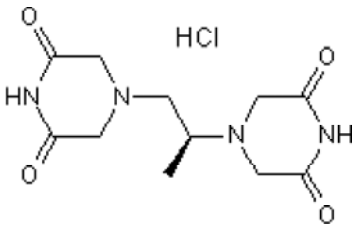
Batch Molecular Formula: $C_{11}H_{16}N_4O_4.HCl.H_2O$

Batch Molecular Weight: 322.75

Physical Appearance: Off White solid

Minimum Purity: ≥98%

Batch Molecular Structure:



Storage: Desiccate at RT

Solubility & Usage Info:

water to 100 mM
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. 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:

Spallarossa *et al* (2010) Sublethal doses of an anti-erbB2 antibody leads to death by apoptosis in cardiomyocytes sensitized by low prosenescent doses of epirubicin: the protective role of dexraz. J.Pharmacol.Exp.Ther. ***332*** 87. PMID: 19841470.

Lebrecht *et al* (2007) Dexrazoxane prevents doxorubicin-induced long-term cardiotoxicity and protects myocardial mitochondria from genetic and functional lesions in rats. Br.J.Pharmacol ***151*** 771. PMID: 17519947.

Classen *et al* (2003) Structure of the topoisomerase II ATPase region and its mechanism of inhibition by the chemotherapeutic agent ICRF-187. Proc.Natl.Acad.Sci. ***100*** 10629.