TOCRIS
a bio-techne brand

Print Date: Sep 22nd 2020

Certificate of Analysis

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Product Name: **QAQ dichloride** **Catalog No.: 5470** **Batch No.: 1**

IUPAC Name: 2,2'-[1,2-Diazenediylbis(4,1-phenyleneimino)bis[*N*,*N*,*N*-triethyl-2-oxo-ethanaminium] dichloride

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{28}H_{44}Cl_2N_6O_2.H_2O$

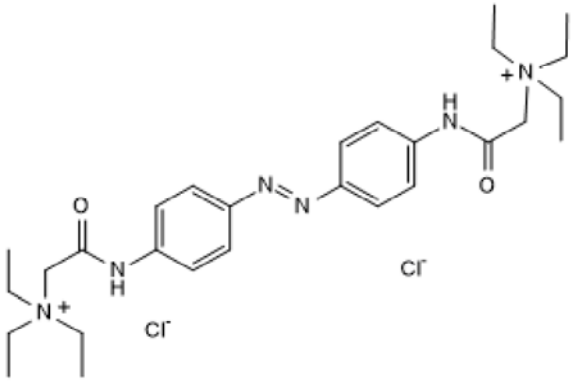
Batch Molecular Weight: 585.61

Physical Appearance: Orange solid

Solubility: water to 50 mM
DMSO to 10 mM

Storage: Store at -20°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 98.3% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	57.43	7.92	14.35
Found	57.33	7.89	14.34

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Product Information

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Description:

Photoswitchable Na_v, Ca_v and K_v channel blocker. Blocks channels in the trans conformation. Switches conformation from cis to trans at 500 nm and trans to cis at 380 nm. Normally membrane impermeant, but enters nociceptive neurons via ion channels activated by noxious stimuli, particularly TRPV1. Exhibits optically reversible local anesthesia in rats.

Physical and Chemical Properties:

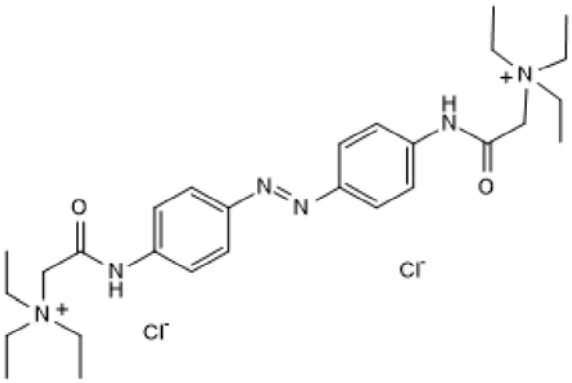
Batch Molecular Formula: $C_{28}H_{44}Cl_2N_6O_2.H_2O$

Batch Molecular Weight: 585.61

Physical Appearance: Orange solid

Minimum Purity: ≥98%

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:

water to 50 mM
DMSO to 10 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:

Mourot *et al* (2012) Rapid optical control of nociception with an ion-channel photoswitch. Nat.Methods ***9*** 396. PMID: 22343342.

Banghart MR *et al* (2009) Photochromic blockers of voltage-gated potassium channels. Angew.Chem.Int.Ed. ***48*** 9097. PMID: 19882609.

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