

Certificate of Analysis

Product Name: AAQ chloride

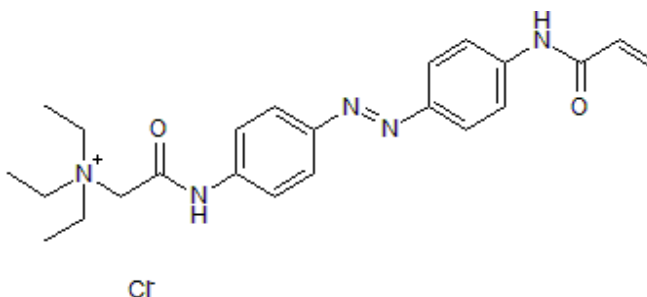
Catalog No.: 5462

Batch No.: 1

IUPAC Name: *N,N,N*-Triethyl-2-oxo-2-[[4-[2-[4-[(1-oxo-2-propen-1-yl)amino]phenyl]diazanyl]phenyl]amino]ethanminium chloride

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula:	C ₂₃ H ₃₀ ClN ₅ O ₂
Batch Molecular Weight:	443.97
Physical Appearance:	Orange solid
Solubility:	DMSO to 20 mM
Storage:	Store at -20°C
Batch Molecular Structure:	



2. ANALYTICAL DATA

HPLC:	Shows 99.5% purity
¹H NMR:	Consistent with structure
Mass Spectrum:	Consistent with structure
Microanalysis:	

	Carbon	Hydrogen	Nitrogen
Theoretical	62.22	6.81	15.77
Found	62.06	6.81	15.78

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

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Description:

Photoswitchable K_v channel blocker (IC₅₀ values are 2 and 64 μM at 500 nm and 380 nm respectively). Switches conformation from cis to trans at 500 nm and trans to cis at 380 nm. Exhibits minimal activity at Na_v1.2 and L-type Ca²⁺ channels. Stimulates action potential firing of hippocampal neurons in vitro at 500 nm and restores visual responsiveness in blind mice at 380 nm.

Physical and Chemical Properties:

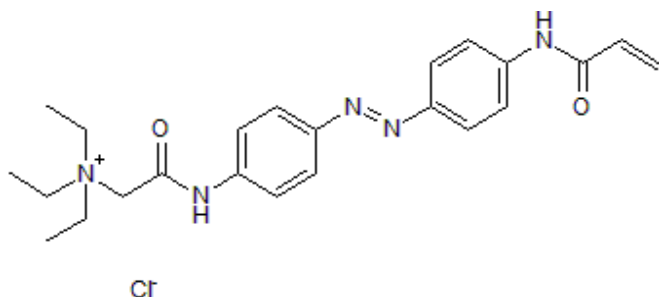
Batch Molecular Formula: C₂₃H₃₀ClN₅O₂

Batch Molecular Weight: 443.97

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:

DMSO to 20 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:

Fortin et al (2008) Photochemical control of endogenous ion channels and cellular excitability. *Nat.Methods* **5** 331. PMID: 18311146.

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

Polosukhina et al (2012) Photochemical restoration of visual responses in blind mice. *Neuron* **75** 271. PMID: 22841312.

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