

Certificate of Analysis

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Product Name: bPiDDB

Catalog No.: 3221

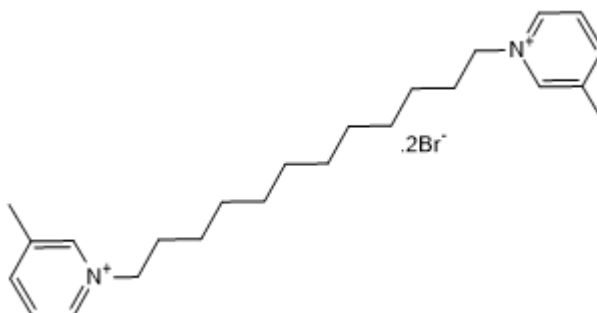
Batch No.: 1

CAS Number: 525596-66-1

IUPAC Name: 1,1'-(1,12-Dodecanediyl)bis[3-methylpyridinium] dibromide

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{24}H_{38}Br_2N_2 \cdot \frac{1}{2}H_2O$
Batch Molecular Weight: 523.39
Physical Appearance: Light brown lyophilised solid
Solubility: water to 100 mM
DMSO to 100 mM
Storage: Desiccate at RT
Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 100% purity
¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure
Microanalysis:

Carbon Hydrogen Nitrogen

Theoretical	55.08	7.51	5.35
Found	54.96	7.52	5.35

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

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IUPAC Name: 1,1'-(1,12-Dodecanediyl)bis[3-methylpyridinium] dibromide

Description:

Orthosteric neuronal nicotinic acetylcholine receptor (nAChR) antagonist (IC₅₀ values are 0.17, 0.25, 0.4, 4.8, 6.5, 8.2, 20 and 34 µM at α3β4, α1β1εδ, α3β4β3, α6β4β3, α7, α4β2, α3β2β3 and α6/3β2β3 receptors respectively). Attenuates nicotine-evoked dopamine release from the ventral tegmental area in vivo (IC₅₀ = 0.2 nM) and reduces nicotine self-administration in rats. Brain penetrant.

Physical and Chemical Properties:

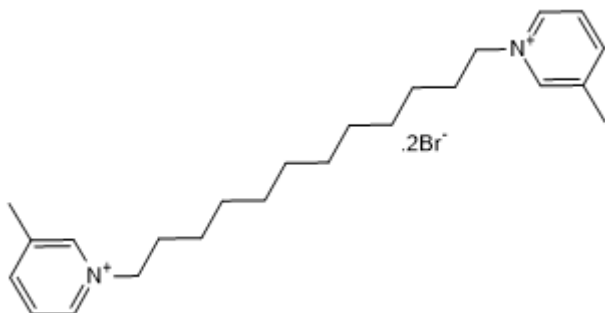
Batch Molecular Formula: C₂₄H₃₈Br₂N₂·½H₂O

Batch Molecular Weight: 523.39

Physical Appearance: Light brown lyophilised solid

Minimum Purity: >98%

Batch Molecular Structure:



Storage: Desiccate at RT. This product is packaged under an inert atmosphere.

Solubility & Usage Info:

water to 100 mM

DMSO to 100 mM

CAUTION: This product is extremely hygroscopic.

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:

Dwoskin et al (2008) *N,N'*alkane-diyl-*bis*-3-picoliniums as nicotinic receptor antagonists: Inhibition of nicotine-evoked dopamine release and hyperactivity. *J.Pharmacol.Exp.Ther.* **326** 563. PMID: 18460644.

Rahman et al (2008) Region-specific effects of the *N,N'*-dodecane-1,12-diyl-*bis*-3-picolinium dibromide on nicotine-induced increase in extracellular dopamine *in vivo*. *Br.J.Pharmacol.* **153** 792. PMID: 18059317.

Ayers et al (2002) Bis-azaaromatic quaternary ammonium analogues: ligands for α4β2* and β7* subtypes of neuronal nicotinic receptors *Bioorg.Med.Chem.Letts.* **12** 3067.

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