TOCRIS
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Print Date: Jan 13th 2016

Certificate of Analysis

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Product Name: **ANAVEX 2-73** **Catalog No.: 5058** **Batch No.: 2**

CAS Number: 195615-84-0

IUPAC Name: Tetrahydro-*N*,*N*-dimethyl-2,2-diphenyl-3-furanmethanamine hydrochloride

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{19}H_{23}NO.HCl$

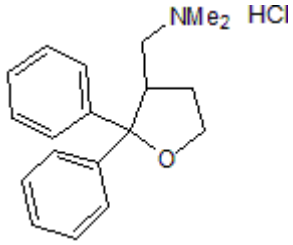
Batch Molecular Weight: 317.85

Physical Appearance: White solid

Solubility: water to 100 mM
DMSO to 100 mM

Storage: Store at RT

Batch Molecular Structure:



2. ANALYTICAL DATA

TLC: R_f = 0.16 (EA/MeOH/Et3N: 94:5:1)

HPLC: Shows 98.5% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	71.8	7.61	4.41
Found	71.73	7.52	4.5

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IUPAC Name: Tetrahydro-*N,N*-dimethyl-2,2-diphenyl-3-furanmethanamine hydrochloride

Description:

σ_1 agonist (IC_{50} = 860 nM); also displays affinity for muscarinic M_1-M_4 receptors (K_i values < 500 nM), but not for σ_2 receptors. Exhibits neuroprotective effects, prevents tau hyperphosphorylation, and attenuates scopolamine- and (+)-MK 801-induced learning deficits in a mouse model of amyloid toxicity.

Physical and Chemical Properties:

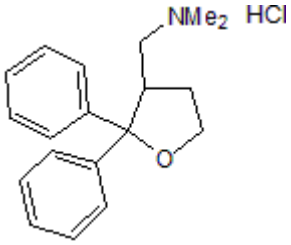
Batch Molecular Formula: $C_{19}H_{23}NO.HCl$

Batch Molecular Weight: 317.85

Physical Appearance: White solid

Minimum Purity: >98%

Batch Molecular Structure:



Storage: Store 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:

Villard *et al* (2010) Anti-amnesic and neuroprotective potentials of the mixed muscarinic receptor/sigma 1 (σ_1) ligand ANAVEX2-73, a novel aminotetrahydrofuran derivative. J.Psychopharmacol. ***25*** 1101. PMID: 20829307.

Lahmy *et al* (2013) Blockade of tau hyperphosphorylation and $A\beta_{1-42}$ generation by the aminotetrahydrofuran derivative ANAVEX2-73, a mixed muscarinic and σ_1 receptor agonist, in a nontransgenic mouse model of Alzheimer's disease. Neuropsychopharmacology ***38*** 1706.