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TOCRIS

Print Date: Jun 28th 2023

Certificate of Analysis

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Product Name: **ML 67-33** **Catalog No.: 6886** **Batch No.: 2**

CAS Number: 1443290-89-8

IUPAC Name: 2,7-Dichloro-9,10-dihydro-9,9-dimethyl-10-[2-(2*H*-tetrazol-5-yl)ethyl]acridine

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{18}H_{17}Cl_2N_5$

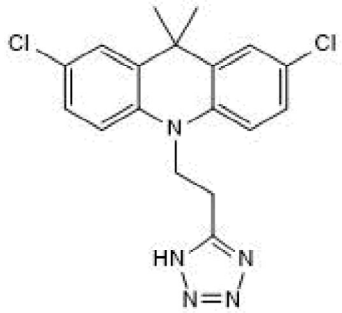
Batch Molecular Weight: 374.27

Physical Appearance: White solid

Solubility: DMSO to 100 mM

Storage: Store at -20°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.6% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	57.76	4.58	18.71
Found	57.95	4.58	18.65

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Description:

ML 67-33 is a K_{2P} potassium channel activator (EC_{50} values are 21.8 - 29.4 µM, 30.2 µM and 27.3 µM for K_{2P}2.1 (TREK-1), K_{2P}10.1 (TREK-2) and K_{2P}4.1 (TRAAK) respectively, expressed in xenopus oocytes). Increases channel currents by activating core gating apparatus of channels. In a mouse migraine model, ML 67-33 improves pain symptoms via activation of TREK 1/2 currents in trigeminal ganglion sensory neurons.

Physical and Chemical Properties:

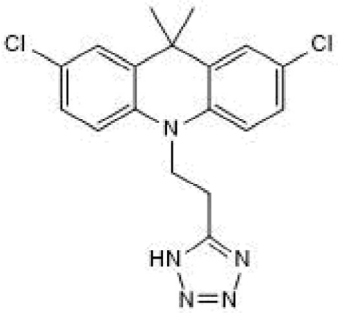
Batch Molecular Formula: $C_{18}H_{17}Cl_2N_5$

Batch Molecular Weight: 374.27

Physical Appearance: White solid

Minimum Purity: ≥98%

Batch Molecular Structure:



Storage: Store at -20°C

Solubility & Usage Info:

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. *Unless contradicted by product-specific protocols or instructions, our standard recommendations apply:

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:

Prado *et al* (2021) TREK channel activation suppresses migraine pain phenotype. iScience ***24*** 102961. PMID: 34458705.

Pope *et al* (2018) Protein and chemical determinants of BL-1249 action and selectivity for K_{2P} channels. ACS Chem.Neurosci. ***9*** 3153. PMID: 30089357.

Bagriantsev *et al* (2013) A high-throughput functional screen identifies small molecule regulators of temperature- and mechano-sensitive K_{2P} channels. ACS Chem.Biol. ***8*** 1841. PMID: 23738709.

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