Print Date: Mar 18th 2019

Certificate of Analysis

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Product Name: **PSEM 308 hydrochloride** **Catalog No.: 6425** **Batch No.: 1**

IUPAC Name: 5-Methyl-5,8,9,10,11a,12-hexahydro-4*H*-8,11-ethanopyrido[3',2':3,4]diazepino[6,7,1-*hi*]indole hydrochloride

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{17}H_{21}N_3.HCl$

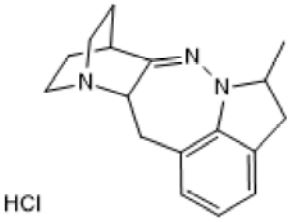
Batch Molecular Weight: 303.83

Physical Appearance: Off White solid

Solubility: DMSO to 20 mM
ethanol to 20 mM with gentle warming

Storage: Store at -20°C

Batch Molecular Structure:



2. ANALYTICAL DATA

TLC: R_f = 0.3 (Dichloromethane:Methanol [95:5])

HPLC: Shows 98.3% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	67.2	7.3	13.83
Found	66.93	7.42	13.75

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Product Information

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Description:

PSAM (pharmacologically selective actuator module) agonist. Activates PSAM^{L141F}-GlyR chimeric ion channels. Inhibits activity of neurons expressing PSAM^{L141F}-GlyR in vivo and activates locus coeruleus noradrenergic neurons expressing PSAM^{L141F,Y115F}-5-HT$_3$ ion channels. Recommended concentration for use in mice is 5 mg/kg or lower. Plasmid vectors for the transfection of cells with PSAM^{L141F}-GlyR and PSAM^{L141F,Y115F}-5-HT$_3$ are available from Addgene.

Physical and Chemical Properties:

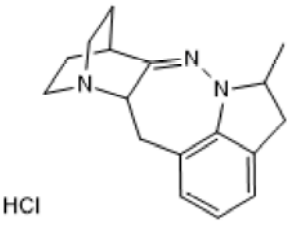
Batch Molecular Formula: $C_{17}H_{21}N_3$.HCl

Batch Molecular Weight: 303.83

Physical Appearance: Off White solid

Minimum Purity: >98%

Batch Molecular Structure:



Storage: Store at -20°C

Solubility & Usage Info:

DMSO to 20 mM
ethanol to 20 mM with gentle warming

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.

Licensing Information:

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References:

Hirschberg *et al* (2017) Functional dichotomy in spinal- vs prefrontal-projecting locus coeruleus modules splits descending noradrenergic analgesia from ascending aversion and anxiety in rats. Elife ***6*** e29808. PMID: 29027903.

Satoh *et al* (2016) Context-dependent gait choice elicited by EphA4 mutation in Lbx1 spinal interneurons. Neuron ***89*** 1046. PMID: 26924434.

Atasoy *et al* (2012) Deconstruction of a neural circuit for hunger. Nature ***488*** 172. PMID: 22801496 .

Lovett-Barron *et al* (2012) Regulation of neuronal input transformations by tunable dendritic inhibition. Nat.Neurosci. ***15*** 423. PMID: 22246433.

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