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DATASHEET

Perlapine dihydrochloride (water soluble)

Product overview

Name	Perlapine dihydrochloride (water soluble)
Cat No	HB6126
Alternative names	NSC291840 dihydrochloride
Biological action	Activator
Purity	>98%
Description	Effective agonist for muscarinic-based DREADDs in vitro and in vivo. Non-CNO chemogenetic actuator. Water soluble.

Biological Data

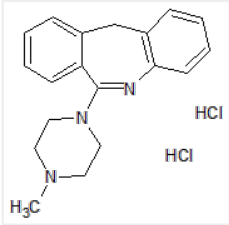
Biological description	<p>Perlapine dihydrochloride is the water soluble of perlapine which is a potent agonist at muscarinic based DREADDs such as the excitatory hM3Dq, hM1Dq and inhibitory hM4Di DREADDs (pEC₅₀ values are 8.08, 8.38 and 7.27 at hM3Dq, hM1Dq and hM4Di respectively).</p> <p>Perlapine exhibits >10,000-fold selectivity for hM3Dq over wildtype hM3 and interacts with wildtype hM1 and hM4 receptors with relatively low affinity. Perlapine lacks agonist activity at wild type receptors.</p> <p>It has been reported that perlapine does not undergo back metabolism to clozapine.</p> <p>Perlapine also acts as a sleep inducing, hypnotic agent.</p> <p>CNO dihydrochloride (water soluble), Clozapine N-oxide (CNO) freebase, Compound 21, Salvinorin B (SalB) and perlapine freebase also available.</p> <p><u>Stability Studies</u></p> <p>For more info on the stability of water-soluble DREADD ligands in solution, please see the following guides:</p>
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- [Stability of Water-Soluble DREADD ligands in Solution: A Technical Review](#)

Solubility & Handling

Storage instructions	-20 °C
Solubility overview	Soluble in water (100 mM). Always store solutions at -20 °C.
Handling	<ul style="list-style-type: none">• Hygroscopic solid, contact with air may cause material to become sticky. Product performance should not be affected but we recommend storing the material in a sealed jar.• Always store solutions at -20 °C.
Important	This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use

Chemical Data

Chemical name	6-(4-Methyl-1-piperazinyl)-11H-dibenz[b,e]azepine dihydrochloride
Molecular Weight	360.3
Chemical structure	
Molecular Formula	C ₁₉ H ₂₁ N ₃ ·2HCl
PubChem identifier	0
SMILES	<chem>CN1CCN(CC1)C2=NC3=CC=CC=C3CC4=CC=CC=C42.Cl.Cl</chem>
Source	Synthetic
Appearance	White solid

References

The first structure-activity relationship studies for designer receptors exclusively activated by designer drugs.

Chen et al (2015) ACS Chem Neurosci 6(3)

PubMedID [25587888](#)

6-(4-Methyl-1-piperazinyl)morphanthridine (Perlapine), a new tricyclic compound with sedative and sleep-promoting properties. A pharmacological study.

Stille et al (1973) Psychopharmacologia 24(4)

PubMedID [4695567](#)

DREADDs for Neuroscientists.

Roth BI (2016) Neuron 89(4)

PubMedID [26889809](#)

DREADD Agonist 21 Is an Effective Agonist for Muscarinic-Based DREADDs in Vitro and in Vivo

Thompson et al (2018) ACS Pharmacol. Transl. Sci. Thompson et al

DREADDs: The Power of the Lock, the Weakness of the Key. Favoring the Pursuit of Specific Conditions Rather than Specific Ligands.

Goutaudier et al (2019) eNeuro 6

PubMedID [31562177](#)