TOCRIS
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Print Date: Aug 17th 2016

Certificate of Analysis

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Product Name: **CX 546** **Catalog No.: 2980** **Batch No.: 4**

CAS Number: 215923-54-9

IUPAC Name: (2,3-Dihydro-1,4-benzodioxin-6-yl)-1-piperidinylmethanone

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{14}H_{17}NO_3$

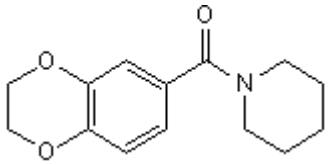
Batch Molecular Weight: 247.29

Physical Appearance: White solid

Solubility: DMSO to 100 mM
ethanol to 100 mM

Storage: Store at +4°C

Batch Molecular Structure:



2. ANALYTICAL DATA

TLC: R_f = 0.48 (Ethyl acetate:Petroleum ether [3:2])

HPLC: Shows 99.7% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	68	6.93	5.66
Found	68.33	7.09	5.72

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

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Description:

AMPA receptor potentiator. Binds specifically to the agonist bound non-desensitized receptor, most likely destabilizing the desensitized receptor conformation. Enhances cognitive function in rats. Neuroprotective in mice undergoing repeat ketamine anesthesia.

Physical and Chemical Properties:

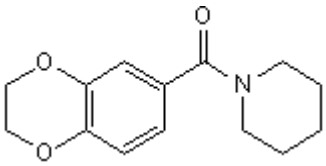
Batch Molecular Formula: $C_{14}H_{17}NO_3$

Batch Molecular Weight: 247.29

Physical Appearance: White solid

Minimum Purity: >99%

Batch Molecular Structure:



Storage: Store at +4°C

CAUTION - This product is light sensitive and we recommend that the solid material and any solutions obtained are protected from exposure to light.

Solubility & Usage Info:

DMSO to 100 mM
ethanol 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:

Huang *et al* (2016) Post-anesthesia AMPA receptor potentiation prevents anesthesia-induced learning and synaptic deficits. Sci.Transl.Med. ***8*** ra85. PMID: 27334260 .

Shimazaki *et al* (2007) Blockade of the metabotropic glutamate 2/3 receptors enhances social memory via the AMPA receptor in rats. Eur.J.Pharmacol. ***575*** 94. PMID: 17727837.

O'Neill *et al* (2004) AMPA receptor potentiators for the treatment of CNS disorders. Curr.Drug Targets CNS Neurol.Disord. ***3*** 181. PMID: 15180479.

Nagararjan *et al* (2001) Mechanism and impact of allosteric AMPA receptor modulation by the ampakine TM CX546. Neuropharmacology. ***41*** 650. PMID: 11640919.

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