

Certificate of Analysis

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Product Name: Norketamine hydrochloride

Catalog No.: 1970

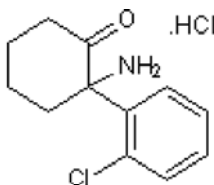
Batch No.: 4

CAS Number: 79499-59-5

IUPAC Name: 2-Amino-2-(2-chlorophenyl)cyclohexanone hydrochloride

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₁₂H₁₄ClNO.HCl.H₂O
Batch Molecular Weight: 278.18
Physical Appearance: White solid
Solubility: water to 100 mM
 phosphate buffered saline to 100 mM
Storage: Desiccate at RT
Batch Molecular Structure:



2. ANALYTICAL DATA

TLC: R_f = 0.3 (DCM / MeOH/NH₄OH (19:0.9:0.1))
HPLC: Shows >99.9% purity
¹H NMR: Consistent with structure
 Mass Spectrum: Consistent with structure
Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	51.81	6.16	5.04
Found	51.76	6.49	5.34

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

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Description:

Major metabolite of ketamine that is a potent non-competitive NMDA receptor antagonist ($K_i = 3.6 \mu\text{M}$ for displacement of [³H]-MK 801 in rat brain). Antinociceptive and anesthetic in vivo. R-enantiomer and S-enantiomer also available.

Physical and Chemical Properties:

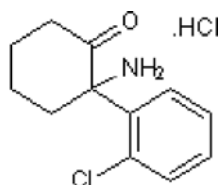
Batch Molecular Formula: C₁₂H₁₄ClNO.HCl.H₂O

Batch Molecular Weight: 278.18

Physical Appearance: White solid

Minimum Purity: ≥99%

Batch Molecular Structure:



Storage: Desiccate at RT

Solubility & Usage Info:

water to 100 mM

phosphate buffered saline to 100 mM

CAUTION - This product is hygroscopic and we recommend that it is desiccated upon arrival. Solutions should be made up as soon as the vial is opened.

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.

Other Information:

INFORMATION FOR CUSTOMERS IN THE UK ONLY

This product is a Schedule 2 Home Office controlled substance and customers in the UK are required to hold the relevant licence or be exempt from restrictions in order to purchase and possess this material.

Licensing Information:

Sold for research purposes under agreement from Pfizer Inc.

References:

Shimoyama et al (1999) Oral KA is antinociceptive in the rat formalin test: role of the metabolite, norKA. *Pain* **81** 85. PMID: 10353496.

Ebert et al (1997) NorKA, the main metabolite of KA, is a non-competitive NMDA receptor antagonist in the rat cortex and spinal cord. *Eur.J.Pharmacol.* **333** 99. PMID: 9311667.

Leung et al (1986) Comparative pharmacology in the rat of KA and its two principal metabolites, norKA and (Z)-6-hydroxynorKA. *J.Med.Chem.* **29** 2396. PMID: 3783598.

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bio-techne.com

info@bio-techne.com

techsupport@bio-techne.com

North America

Tel: (800) 343 7475

China

info.cn@bio-techne.com

Tel: +86 (21) 52380373

Europe Middle East Africa

Tel: +44 (0)1235 529449

Rest of World

www.tocris.com/distributors

Tel:+1 612 379 2956