

Certificate of Analysis

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Product Name: Carboplatin

CAS Number: 41575-94-4

IUPAC Name: *cis*-Diammine(1,1-cyclobutanedicarboxylato)platinum(II)

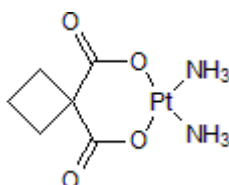
Catalog No.: 2626

Batch No.: 3

EC Number: 255-446-0

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₆H₁₂N₂O₄Pt
Batch Molecular Weight: 371.25
Physical Appearance: White solid
Solubility: water to 25 mM
Storage: Store at RT
Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 100% purity
¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen	Platinum
Theoretical	19.41	3.26	7.55	52.55
Found	19.34	3.16	7.51	52.16

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

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Description:

Antitumor agent that forms platinum-DNA adducts. Causes intra- and interstrand DNA crosslinks blocking DNA replication and transcription. Enhances radiation-induced single-strand DNA breakage and displays lower nephrotoxicity than analog cisplatin (Cat. No. 2251).

Physical and Chemical Properties:

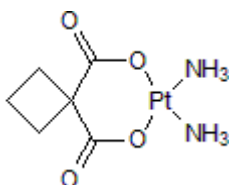
Batch Molecular Formula: C₆H₁₂N₂O₄Pt

Batch Molecular Weight: 371.25

Physical Appearance: White solid

Minimum Purity: >99%

Batch Molecular Structure:



Storage: Store at RT

Solubility & Usage Info:

water to 25 mM

Even though it is soluble in DMSO, the use of DMSO to dissolve Carboplatin in biological studies should be strongly discouraged. The DMSO was found to insert itself into the ligand, resulting in loss of activity. See Hall *et al.* (2014), Cancer research published online. PMID: 24812268.

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:

Yang *et al* (1995) Carboplatin enhances the production and persistence of radiation-induced DNA single-strand breaks. *Radiation Res.* **143** 302.

Natarajan *et al* (1999) Increased DNA-binding activity of *cis*-1,1-cyclobutanedicarboxylatodiammineplatinum (II) (carboplatin) in the presence of nucleophiles and human breast cancer MCF-7 cell cytoplasmic extracts: activation theory revisited. *Biochem.Pharmacol.* **58** 1625. PMID: 10535754.

Thomas *et al* (2006) High accumulation of platinum-DNA adducts in stria marginal cells of the cochlea is an early event in cisplatin but not carboplatin ototoxicity. *Mol.Pharmacol.* **70** 23. PMID: 16569706.

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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