

## Certificate of Analysis

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**Product Name:** Carboplatin

**Catalog No.:** 2626

**Batch No.:** 4

CAS Number: 41575-94-4

EC Number: 255-446-0

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

### 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>6</sub>H<sub>12</sub>N<sub>2</sub>O<sub>4</sub>Pt.¼H<sub>2</sub>O

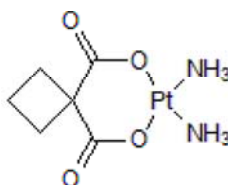
**Batch Molecular Weight:** 375.75

**Physical Appearance:** Off White solid

**Solubility:** water to 25 mM

**Storage:** Store at RT

**Batch Molecular Structure:**



### 2. ANALYTICAL DATA

**HPLC:** Shows 99.8% purity

**<sup>1</sup>H NMR:** Consistent with structure

**Mass Spectrum:** Consistent with structure

**Microanalysis:**

	Carbon	Hydrogen	Nitrogen	Platinum
Theoretical	19.18	3.35	7.46	51.92
Found	19.44	3.22	7.46	51.66

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

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**4**

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**Description:**

Carboplatin is an 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:**

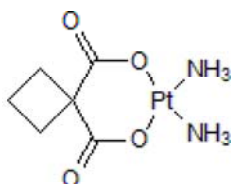
Batch Molecular Formula: C<sub>6</sub>H<sub>12</sub>N<sub>2</sub>O<sub>4</sub>Pt.¼H<sub>2</sub>O

Batch Molecular Weight: 375.75

Physical Appearance: Off 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:**

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

**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.

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

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