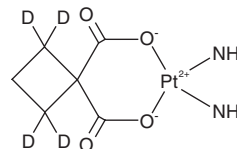


# PRODUCT INFORMATION



## Carboplatin-d<sub>4</sub> Item No. 34506

<b>Formal Name:</b>	(SP-4-2)-diammine[1,1-cyclobutanedicarboxylato(2-)-κO,κO'']-platinum-d <sub>4</sub>
<b>Synonyms:</b>	CBDCA-d <sub>4</sub> , CDDCA-d <sub>4</sub> , <i>cis</i> -Diammine(1,1-cyclobutanedicarboxylato)platinum(II)-d <sub>4</sub>
<b>MF:</b>	C <sub>6</sub> H <sub>8</sub> D <sub>4</sub> N <sub>2</sub> O <sub>4</sub> Pt
<b>FW:</b>	375.3
<b>Chemical Purity:</b>	≥95% (Carboplatin)
<b>Deuterium Incorporation:</b>	≥99% deuterated forms (d <sub>1</sub> -d <sub>4</sub> ); ≤1% d <sub>0</sub>
<b>Supplied as:</b>	A solid
<b>Storage:</b>	-20°C
<b>Stability:</b>	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

Carboplatin-d<sub>4</sub> is intended for use as an internal standard for the quantification of carboplatin (Item No. 13112) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

Carboplatin-d<sub>4</sub> is supplied as a solid. A stock solution may be made by dissolving the carboplatin-d<sub>4</sub> in the solvent of choice, which should be purged with an inert gas. Carboplatin-d<sub>4</sub> is slightly soluble in methanol.

Carboplatin-d<sub>4</sub> is slightly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

### Description

Carboplatin is a platinum-containing DNA-crosslinking agent.<sup>1</sup> It induces the formation of DNA interstrand crosslinks and DNA-protein crosslinks when used at concentrations of 200 and 300 μM. It inhibits the proliferation of GLC-4 small cell lung carcinoma and A2780 and SKOV3 ovarian cancer cells (IC<sub>50</sub>s = 22.7, 0.5, and 10.2 μM, respectively).<sup>2,3</sup> Carboplatin reduces tumor growth in an ADJ/PC6 murine plasmacytoma model (ED<sub>90</sub> = 0.6 mg/kg, i.p.).<sup>4</sup> Formulations containing carboplatin have been used in the treatment of ovarian cancer.

### References

1. Micetich, K.C., Barnes, D., and Erickson, L.C. A comparative study of the cytotoxicity and DNA-damaging effects of *cis*-(diammino)(1,1-cyclobutanedicarboxylato)-platinum(II) and *cis*-diamminedichloroplatinum(II) on L1210 cells. *Cancer Res.* **45(9)**, 4043-4047 (1985).
2. Groen, H.J., Sleijfer, S., Meijer, C., et al. Carboplatin- and cisplatin-induced potentiation of moderate-dose radiation cytotoxicity in human lung cancer cell lines. *Br. J. Cancer* **72(6)**, 1406-1411 (1995).
3. Al-Eisawi, Z., Beale, P., Chan, C., et al. Carboplatin and oxaliplatin in sequenced combination with bortezomib in ovarian tumour models. *J. Ovarian Res.* **6(1)**, 78 (2013).
4. Broad, L.M., Mogg, A.J., Eberle, E., et al. TRPV3 in drug development. *Pharmaceuticals* **9(3)**, E55 (2016).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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