Carboplatin Datasheet

Technical Data

<table>
<thead>
<tr>
<th>Molecular Weight (MW)</th>
<th>371.25</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formula</td>
<td>C₃H₁₂N₂O₄Pt</td>
</tr>
<tr>
<td>CAS No.</td>
<td>41575-94-4</td>
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<tr>
<td>Synonyms</td>
<td>Paraplatin</td>
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<tr>
<td>Solubility (25°C)</td>
<td>DMSO &lt;1 mg/mL, Water 2 mg/mL, Ethanol &lt;1 mg/mL</td>
</tr>
<tr>
<td>Storage</td>
<td>2 years -20°C Powder, 2 weeks 4°C in DMSO, 6 months -80°C in DMSO</td>
</tr>
</tbody>
</table>

Biological Activity

Description
Carboplatin is a DNA synthesis inhibitor by binding to DNA and interfering with the cell's repair mechanism.

Targets
Carboplatin exhibits an inhibitory effect on cell proliferation in a human ovarian cancer cell line panel, including A2780, SKOV3, and IGROV-1 cells with IC50 of 6.1 μM, 12.4 μM and 2.2 μM, respectively. [2] Carboplatin also show the anti-proliferative activities in lung carcinoma cell line, such as UMC-11, H727, and H835 cells with IC50 of 36.4 μM, 3.4 μM and 35.8 μM, respectively. [4]

In vitro
In A2780 tumor xenografts, Carboplatin (60 mg/kg via i.p.) given as single agents shows a modest antitumor effect with the relative tumor volumes on day 6 of 8.4 compared to the control of 11.9, and the day 6 tumor weights relative to control (T/C) of 67%. [2] For the VC8 (Brca2-deficient) xenografts, Carboplatin treatment delays tumor growth and reduces tumor mass by 42% compared to the vehicle group. [5]

In vivo
Carboplatin is currently in Phase II clinical trials in patients with Recurrent, Ovary, Fallopian Tube, and Primary Peritoneal Cancer.

Clinical Trials
Carboplatin is a DNA synthesis inhibitor.

Features

Protocol (Only for Reference)

Cell Lines [2]
A2780, SKOV3, IGROV-1 and HX82

Concentrations
0-200 μM

Incubation Time
72 hours

Methods
3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide (MTT) assays: Exponentially growing A2780, SKOV3, IGROV-1 and HX82 ovarian cancer cells are plated in 96 well plates. A range of drug concentrations are added and the plates are incubated for 72 hours to allow for 3-4 doubling times. Each experiment is carried out in triplicate. Sulforhodamine B (SRB) assays: Exponentially growing A2780 cells are plated in 96 well microtiter plates. For experiments studying concomitant exposure, cells are exposed to increasing concentrations of both drugs for 96 hours. For experiments studying the effect of sequence of exposure to 17-AAG or carboplatin cells are exposed to increasing concentrations of 17-AAG or carboplatin for 24 hours. A period of 24-hour exposure to the first agent is chosen so that the A2780 cells would be exposed to the first drug for at least one doubling time (18-24 hours). The cells are then washed with sterile phosphate buffered saline and the medium is replenished. Following this, the second drug (to which the cells are not exposed to in the first 24 hours) or medium is added for 96 hours. All experiments are carried out in triplicate. The results of combination studies are analyzed using the well-established principles of median effect analysis method. The effects of the combination are calculated using an in-house spreadsheet.

Animal Study [2]
Animal Models
The A2780 human ovarian cancer cell line is grown as a subcutaneous xenograft in female athymic NCr nude mice (nu/nu) in each flank.

Formulation
Carboplatin is dissolved in 43% ethanol, 33% polypropylene glycol and 24% cremophor diluted 1:7 with sterile water.

Doses
≤60 mg/kg

Administration
Administered via i.p.

References
Customer Reviews

Data independently produced by Dr. Helen Sadik of Johns Hopkins University
Carboplatin purchased from Selleck
A. MCF10A-Ras overexpressing a vector control or the gene of interest (GeneX), or MCF7 expressing a scramble or a siRNA for the geneX were treated with DMSO or with Carboplatin for 24h. Resistant colonies were allowed to grow for 2 weeks, and are then stained with Crystal Violet. B. Quantification of the results.

Data independently produced by Dr. Helen Sadik of Johns Hopkins University
Carboplatin purchased from Selleck
Cells were seeded in 96 well plates, and then treated with the indicated concentration of Carboplatin for 48h. Cell survival was measured by a standard MTT assay.

PLEASE KEEP THE PRODUCT UNDER -20°C FOR LONG-TERM STORAGE.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE

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