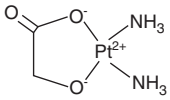
PRODUCT INFORMATION

Nedaplatin

Item No. 29001

CAS Registry No.:	95734-82-0
Formal Name:	(SP-4-3)-diammine[2-(hydroxy-κO) acetato(2-)-κO]-platinum
Synonym:	NSC 375101
MF:	$C_2H_8N_2O_3Pt$
FW:	303.2
Purity:	≥95%
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



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

Laboratory Procedures

Nedaplatin is supplied as a crystalline solid. A stock solution may be made by dissolving the nedaplatin in water. We do not recommend storing the aqueous solution for more than one day.

Description

Nedaplatin is a derivative of cisplatin (Item No. 13119) with anticancer activity.[1] Nedaplatin undergoes spontaneous hydrolysis to form platinum complexes that cross-link DNA resulting in apoptosis and cell death.[2,3] It inhibits the growth of human NUGC-4 gastric and KSE-1 esophageal squamous carcinoma cells (IC_{50}s = 4.6 and 3.4 µM, respectively) and inhibits S to G_2 and G_2/M to G_1 cell cycle progression.[4] Nedaplatin (44 mg/kg) decreases tumor volume and increases survival in a Lewis lung carcinoma syngeneic mouse model.[1] Nedaplatin (40 mg/kg) also decreases tumor volume in an HNC-3 head and neck cancer mouse xenograft model.[5] It exhibits reduced nephrotoxicity in rats compared with cisplatin.[3]

References

1. Uchida, N., Takeda, Y., Hojo, K., *et al.* Sequence-dependent antitumour efficacy of combination chemotherapy of nedaplatin, a novel platinum complex, with 5-fluorouracil in an *in vivo* murine tumour model. *Eur. J. Cancer* **34(11)**, 1796-1801 (1998).
2. Alberto, M.E., Lucas, M.F.A., Pavelka, M., *et al.* The second-generation anticancer drug Nedaplatin: A theoretical investigation on the hydrolysis mechanism. *J. Phys. Chem. B* **113(43)**, 14473-14479 (2009).
3. Hanada, K., Suda, M., Kanai, N., *et al.* Pharmacokinetics and toxicodynamics of oxaliplatin in rats: Application of a toxicity factor to explain differences in the nephrotoxicity and myelosuppression induced by oxaliplatin and the other platinum antitumor derivatives. *Pharm. Res.* **27(9)**, 1893-1899 (2010).
4. Tanaka, R., Takii, Y., Shibata, Y., *et al.* In vitro sequence-dependent interaction between nedaplatin and paclitaxel in human cancer cell lines. *Cancer Chemother. Pharmacol.* **56(3)**, 279-285 (2005).
5. Yamada, H., Maki, H., Takeda, Y., *et al.* Evaluation of combined nedaplatin and docetaxel therapy for human head and neck cancer *in vivo*. *Anticancer Res.* **26(2A)**, 989-994 (2006).

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