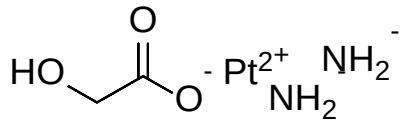
Product data sheet

MedKoo Cat#: 100665 Name: Nedaplatin CAS: 95734-82-0 Chemical Formula: $C_2H_6N_2O_3Pt$ Exact Mass: 303.0183 Molecular Weight: 301.1646	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years.
	In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:
Nedaplatin (INN, marketed under the tradename Aqupla) is a platinum-based antineoplastic drug which is used for cancer chemotherapy. It produces less nausea, vomiting and nephrotoxicity than other platinum-containing drugs. (Source: http://en.wikipedia.org/wiki/Nedaplatin).

2. CoA, QC data, SDS, and handling instruction
SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under "QC And Documents" section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMF	1.0	3.30
Water	13.6	45.16

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	3.30 mL	16.49 mL	32.98 mL
5 mM	0.66 mL	3.30 mL	6.60 mL
10 mM	0.33 mL	1.65 mL	3.30 mL
50 mM	0.07 mL	0.33 mL	0.66 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator
Please refer the product web page under section of "Calculator"

6. Recommended literature which reported protocols for in vitro and in vivo study
In vitro study

1. El-Shafie S, Fahmy SA, Ziko L, Elzahed N, Shoeib T, Kakarougkas A. Encapsulation of Nedaplatin in Novel PEGylated Liposomes Increases Its Cytotoxicity and Genotoxicity against A549 and U2OS Human Cancer Cells. Pharmaceutics. 2020 Sep 10;12(9):863. doi: 10.3390/pharmaceutics12090863. PMID: 32927897; PMCID: PMC7559812.
2. Jing C, Wang Z, Lou R, Wu J, Shi C, Chen D, Ma R, Liu S, Cao H, Feng J. Nedaplatin reduces multidrug resistance of non-small cell lung cancer by downregulating the expression of long non-coding RNA MVIH. J Cancer. 2020 Jan 1;11(3):559-569. doi: 10.7150/jca.35792. PMID: 31942179; PMCID: PMC6959054.

In vivo study

1. Matsumoto M, Takeda Y, Maki H, Hojo K, Wada T, Nishitani Y, Maekawa R, Yoshioka T. Preclinical in vivo antitumor efficacy of nedaplatin with gemcitabine against human lung cancer. Jpn J Cancer Res. 2001 Jan;92(1):51-8. doi: 10.1111/j.1349-7006.2001.tb01047.x. PMID: 11173544; PMCID: PMC5926590.
2. Uchida N, Takeda Y, Hojo K, Maekawa R, Sugita K, Yoshioka T. 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. 1998 Oct;34(11):1796-801. doi: 10.1016/s0959-8049(98)00194-4. PMID: 9893671.

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7. Bioactivity

Biological target:

Nedaplatin (NSC 375101D) is a derivative of cisplatin and DNA damage agent.

In vitro activity

This study shows that by encapsulating nedaplatin in PEGylated liposomes, the platinum uptake cytotoxicity and genotoxicity of nedaplatin was significantly enhanced in both cancer cell lines. Moreover, the enhanced platinum uptake as well as the cytotoxic/antiproliferative effect of liposomal nedaplatin appears to be selective to cancer cells as it was not observed on two noncancer cell lines.

Reference: Pharmaceutics. 2020 Sep 10;12(9):863. https://pubmed.ncbi.nlm.nih.gov/32927897/

In vivo activity

A fixed 5-FU dose was injected daily for 5 days and increasing doses of either NDP (nedaplatin) or CDDP were injected once via the tail vein into the Lewis lung carcinoma-implanted mice. The sequential administration of either NDP or CDDP prior to 5-FU (NF or CF therapy) resulted in severe body weight loss followed by the death of the tumour-bearing mice when the high-dose of NDP or CDDP was administered. In contrast, the sequential administration of 5-FU prior to NDP or CDDP (FN or FC therapy) resulted in synergistically enhanced inhibition of tumour growth and prolonged survival in comparison with NDP, CDDP or 5-FU monotherapy.

Reference: Eur J Cancer. 1998 Oct;34(11):1796-801. https://pubmed.ncbi.nlm.nih.gov/9893671/