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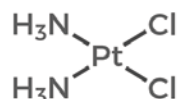
## PLATINUM DRUGS FOR CANCER

The year 2018 marks 40 years since the U.S. FDA approved the first platinum-based cancer drug, cisplatin. Here, we look at how these drugs work and versions across the globe.

### KEY PLATINUM CANCER DRUGS

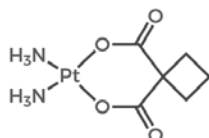
Doctors administer platinum-based drugs in combination with other drugs to treat several types of cancer.

Year shown = date of U.S. FDA approval



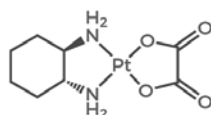
**1978** **CISPLATIN**

First platinum-based cancer drug



**1989** **CARBOPLATIN**

Reduced side effects compared with cisplatin



**2002** **OXALIPLATIN**

Often used in combination with fluoropyrimidines and anthracyclines

● cisplatin ● cisplatin or carboplatin ● oxaliplatin

**BLADDER**

**LUNG**

**COLORECTAL**

**OVARIAN**

**HEAD AND NECK**

**TESTICULAR**

Though useful for treating cancer, platinum-based drugs also have severe side effects. These include kidney problems, vomiting, and bone marrow toxicity.

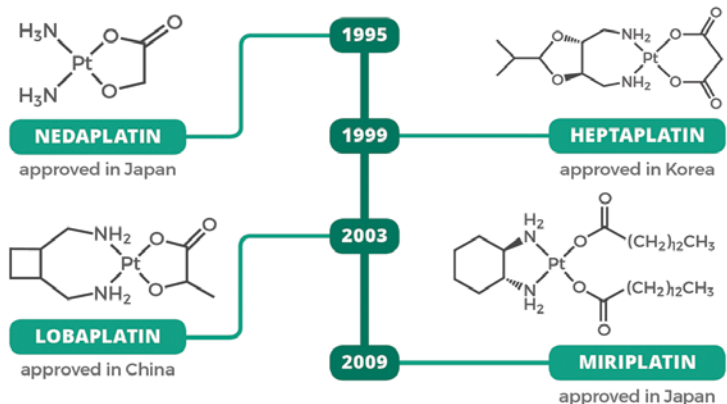
### HOW PLATINUM CANCER DRUGS WORK



Platinum-based drugs bind primarily to guanine bases in DNA strands, forming a platinum bridge. This stops the DNA strand from unzipping and replicating, stopping cancer growth and causing cell death.

### PLATINUM DRUGS APPROVED OUTSIDE THE U.S.

Cancer cells become resistant to treatment with platinum-based drugs, limiting the drugs' effectiveness. Scientists have developed versions to improve potency, lower side effects, or act on new cancer types.



**PERIODIC GRAPHICS**



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