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Carbon C 14 Oxaliplatin

National Cancer Institute

Source

National Cancer Institute. *Carbon C 14 Oxaliplatin*. NCI Thesaurus. Code C111572.

A radioconjugate composed of the platinum agent oxaliplatin labeled with the isotope carbon C 14, that can be used to predict the response to oxaliplatin therapy using accelerator mass spectrometry (AMS). Upon intravenous administration of a microdose of carbon C 14 oxaliplatin, the oxaliplatin moiety covalently links to DNA and forms mono- and di-DNA adducts. The platinum-DNA adduct formation can be measured through quantification of C14-labeled drug-DNA adducts by using AMS. By measuring the microdose-induced DNA damage, the response to oxaliplatin-based chemotherapy can be assessed and predicted. Measurements that indicate either low drug-DNA adduct formation or increased DNA repair (C14 removal from DNA) are correlated with increased resistance to platinum-based chemotherapeutics.