PT-BASED ANTI-CANCER TREATMENTS - A GEOCHEMICAL PERSPECTIVE ON BIOCHEMICAL INTERACTIONS

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Metabolism of platinum (Pt)-based anticancer drugs begins as soon as it enters the blood stream. Though doses, on average, range from 150 mg/m2 to 400 mg/m2 only about 1% of the cisplatin that enters the cell actually binds to DNA. The mode of action of cisplatin and other Pt-based anticancer drugs is well known as are the associated toxicologic impacts and long-term health impacts (late effects). Understanding the geochemical behavior of Pt and other metals reveals potential deleterious interactions between Pt, Cd, and Zn. These potential interactions merit significant attention given the late effects associated with Ptbased treatments. This presentation discusses on the potential interactions of Pt and essential metals as well as explores the utility of Hg, Cd, and Cr as homologs to evaluate the processes associated with late effects and long-term Pt circulation.

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