

## **Investigation of anticancer drug concentration on cancer cell to enhance therapeutic effect of particle radiotherapy**

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### **Abstract**

Concentrations of the chemotherapeutic agent, cis-diamminedichloro-platinum(II) (CDDP) in a solid murine tumor were investigated by submilli- and micro-PIXE analyses as well as a conventional PIXE analysis to study enhancement of antitumor effects caused by radiotherapy combined with CDDP treatment. The conventional PIXE analysis showed that the platinum concentrations of the tumors treated with CDDP at a single dose of 10 mg/kg were approximately 1.6ppm 1 hour after the injection, 2.0 ppm after 6 hours. The platinum distributions in the tissue or cells of the treated tumors could not be evaluated in the present submilli- and micro-PIXE analyses since the platinum concentrations might be nearly equal to or lower than their detection limits.