

## Elemental analysis of a murine NFSa tumor treated with a vascular disrupting agent AVE8062

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### Abstract

We evaluated spatial distributions of principal elements in a NFSa fibrosarcoma tumor treated with a vascular disruption agent, AVE8062 (a derivative of combretastatin A-4) at a single dose of 40 mg/kg using submilli-PIXE analysis. It was found that potassium and sulfur concentrated at the periphery of the treated tumor whereas a ring-shaped calcium distribution was caused in the area between the inner necrotic region and the periphery. These observations were supported by results for quantitative evaluation of elemental concentrations in the tumor samples obtained from conventional PIXE analysis based on the internal standard method. It is suggested that the potassium and sulfur concentrations are related to residual viable cells at the tumor periphery which are commonly observed in VDA treatments whereas the ring of calcium concentration just inside the tumor periphery is possibly derived from hypoxia-induced response.