



## **Accelerator-based boron neutron capture therapy: *in vivo* experiments.**

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The report is about an assessment of a beam at an accelerator neutron source at Budker Institute of Nuclear Physics and its possible application on glioblastoma tumor. An evaluation of the efficacy of boron neutron capture therapy on heterotopic glioblastoma U87 MG in SCID mice using different boron containing drugs was carried out. Accumulation of <sup>10</sup>B in tumor and normal tissues was detected using atomic emission spectrometer ICPE-9820 (Shimadzu, Japan). Tumor growth was significantly slower in all irradiated groups from the 7<sup>th</sup> day after BNCT compared to untreated control group. The differences between experimental groups became significant from the 50<sup>th</sup> day after BNCT. Liposomal BSH showed better long-term results compared to BPA and non-liposomal BSH.

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### **Keywords:**

boron neutron capture therapy, accelerator based epithermal neutron source; boronophenylalanine, sodium borocaptate, liposomal borocaptate, SCID mice with subcutaneous xenografts of human glioblastoma U87 MG.