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Nanoparticles in BNCT

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Boron Neutron Capture Therapy (BNCT) is an experimental radiotherapy with high selectivity based on a prior selective enrichment of tumor cells with B-10 and subsequent irradiation with a beam of low-energy neutrons. For several years there has been an intense research activity for the development of a new carrier of B-10 able to ensure such selectivity; for this purpose nanoparticles can play an important role. After exposing the basic principles of BNCT and the current world situation of BNCT centers based on new neutron sources installable in hospitals, will be presented some examples of nanoparticles tested in vitro and in vivo and their preliminary results obtained.

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