

# DEVELOPMENT OF RADIOACTIVE NANOPARTICLES FUNCTIONALIZED WITH GUM ARABIC TO BE USED IN NANOBRACHYTHERAPY

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The development of new materials emerges as an alternative to the treatment of cancer, from the combination of nanotechnology and brachytherapy a new area of research was born, Nanobrachytherapy, which through the properties of nanometric materials can achieve better results in the fight against cancer. The objective of this work is classified as radiotherapy, which consists of the use of ionizing radiation to destroy or inhibit the growth of abnormal cells that form a tumor. [1] The ability to integrate NPsAu into biological systems is due to the nanometric dimensions of NPsAu probes which facilitate their incorporation into biological systems, as well as their bioconjugation and non-cytotoxic potential. [2] Taking into account the previous objective, gold was selected as the base element for obtaining nanometric systems, which due to its chemical richness and especially due to the intrinsic properties of one of its radioisotopes, which would allow us in theory to meet the stated objective. . Initially, it was based on the knowledge of the literature, and non-radioactive nanometric systems were obtained, and after a series of stability, characterization and application tests, the radioactive nanometric systems were obtained. Working with radioactive systems posed a great challenge, and up to now it presents us with situations to solve, but we have managed to create a methodology for obtaining, characterizing and applying radioactive gold nanoparticles, and also obtaining positive results from their application.

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## References:

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