The World Health Organization’s Annual Report on Cancer indicates that, in 2008, 12.4 million new cases and 7.6 million deaths from cancer alone were recorded around the world. Some of the treatments for HeLa cancer cells include surgery, chemotherapy, radiation therapy as well as combinations of these. Though widely utilized, these treatments are not entirely effective as some cancer cells are resistant to their use. This prototype aims to create an effective alternative for the detection and therapy against this disease. Recently, with the advance of nanotechnology, we have synthesized new nanomaterials, which have various applications towards the detection and therapy of cancer. This wireless radio frequency sensor (RF) is based on carbon nanotubes (CNTs) to allow a timely detection of cancer cells and permit a selective destruction by thermal ablation (AT) due to the excitement of CNTs with harmless radiation of radio frequency (RF) and near infrared (NIR). The sensor is a gold resonant coil LRC circuit for wireless transmission and in its capacitive component CNTs and Gr are deposited and functionalized. The detection is based on a change in the detected RF signal with respect to that emitted by the sensor, when a cancer cell is present. Treatment will be administered through photothermal therapy, which will rely on the excitement of CNTs with NIR, CNTs will then absorb radiation and convert it into heat, which will also occur if they are excited with RF.

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